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The Psychological Stress Evaluator: Yesterday's Dream — Tomorrow's Nightmare

FROM TIME IMMEMORIAL, MAN HAS SOUGHT a failsafe method of truth verification. The techniques have run the gamut from the ancients' trial by ordeal to modern man's lie detectors. Since the turn of the century, this search has focused on the development of a device which would detect deception by measuring the "cause and effect of psychological stimuli and physiological response" during the interrogation of a suspect. Beginning with Cesare Lombroso's primitive attempts in the 1890's² through Reid's sophisticated polygraph³ of today, the desire for a reliable lie detector has continued unabated. In the 1960's, in response to a burgeoning desire for further refinement, the quest began for a "wireless" lie detector which would dispense with the need for physical attachment to the subject.⁴

Interest by the federal government in a "wireless" lie detector added impetus to the quest;⁵ and shortly thereafter the Psychological Stress Evaluator (PSE) was invented by Alan Bell and Colonel Charles McQuiston and placed on the market by Dektor Counterintelligence

¹ DEKTOR COUNTERINTELLIGENCE & SECURITY, INC., USE OF LIE DETECTORS BY THE FEDERAL GOVERNMENT 2 (1974), in *Hearings on the Use of Polygraphs and Similar Devices by Federal Agencies Before the Subcomm. on Foreign Operations and Government Information of the House Comm. on Government Operations*, 93d Cong., 2d Sess., at 225 (1974) [hereinafter cited as *Moorhead Hearings*].

² Lombroso's lie detector was termed the "hydrosphygmograph." The operation consisted of placing the subject's fist in a tank of water and sealing the tank with a rubber membrane. Apparently, changes in the subject's pulse and blood pressure occurring during interrogation were transferred to the water. These changes, as well as those in the water level, were carried into an air-filled tube that, in turn, led to a revolving smoke drum which recorded the changes. J. REID & F. INBAU, *LIE DETECTION AND CRIMINAL INVESTIGATION* 2 n. 2 (1953).

³ A polygraph, known as the "ink polygraph," was invented as early as 1906, which, though it was used for medical purposes, operated on the same principles as today's polygraph. *Id.* at 233. The modern polygraph measures respiration, pulse, blood pressure, and galvanic skin response by means of attaching the subject to a pneumograph tube, blood pressure cuff, and electrodes. A. MOENNSEN, R. MOSES, & F. INBAU, *SCIENTIFIC EVIDENCE IN CRIMINAL CASES* 541 (1973).

⁴ Statement by Charles R. McQuiston, Senior Vice President of Dektor Counterintelligence & Security, Inc., in *Moorhead Hearings* at 221 [hereinafter *Dektor Counterintelligence & Security, Inc.* will be referred to as *Dektor*].

⁵ It is quite possible that the government was interested in such a device solely on the basis of the well-established fact that the polygraph is ineffective in determining deception where certain chronic psychological or physiological disorders are present, such as heart disease, psychosis and either high or low blood pressure; or where the individual suffers from excessive fatigue or is under the influence of certain drugs. F. BAILEY & H. ROTHBLATT, *INVESTIGATION AND PREPARATION OF CRIMINAL CASES* § 371 (1970). Yet, it would be naive to ignore the fact that a "wireless lie detector" would permit the government to conduct extensive surreptitious surveillance of the general citizenry.

Other forms of such "wireless" detectors are being developed at the present time. These include the retinoscope, which purports to detect deception by examining changes in the subject's retina; the microwave respiration monitor; and another form of voice analyzer, the Mark II. See *Moorhead Hearings* at 112-140, 394-405.

and Security, Inc. (Dektor) of Springfield, Virginia.⁶ This latest development in lie detection is premised on the thesis that psychological stress is detectable through identification and measurement of physiological changes in the human voice.

Claims made by the manufacturer suggest a multiplicity of uses for the PSE, including employment applicant screening, periodic testing of employees as a check on theft, and investigation of criminal suspects by both private and public employers as well as law enforcement agencies.⁷ Dektor itself has suggested that the PSE can aid both the psychiatrist, in distinguishing "fact from fancy" in patient statements; and the physician, in diagnosing brain damage in new-borns.⁸ More importantly, unlike the polygraph, the PSE is operative in both overt and covert testing situations,⁹ since it need not be physically attached to the subject. As a corollary to this, Dektor has stated in its literature that a test could be administered over the telephone.¹⁰ And if this be the case, it is quite possible that stress level determinations could be made of voices originating on either television or radio.¹¹

Although Dektor has emphasized the fact that a rigid test procedure is mandatory in effectively evaluating veracity,¹² an analysis of the variety of uses for which the PSE is propounded evinces the likelihood of its use for truth evaluation by an assortment of individuals too inadequately trained to adhere to such rigid procedures. Moreover, the major institutional value of the PSE is not so much its potential for use in detecting whether a subject is telling the truth in the context of a dialogue,¹³ but rather the relative ease with which

⁶ Dektor's specializations, as represented on its stationery, are research and development of counterintelligence and security equipment; design, fabrication and installation of special requirement security and alarm equipment; clandestine listening countermeasures surveys and equipment; and consultation in special security problems. See *Moorhead Hearings* at 242.

⁷ See DAHM, STUDY OF THE FIELD USE OF THE PSYCHOLOGICAL STRESS EVALUATOR, in *Moorhead Hearings* at 255-267 [hereinafter cited as DAHM STUDY].

⁸ SHATTUCK, BROWN & CARLSON, ACLU REPORTS: THE LIE DETECTOR AS A SURVEILLANCE DEVICE 64 (1973), in *Moorhead Hearings* at 73 [hereinafter cited as ACLU REPORTS].

⁹ Testimony of Charles R. McQuiston, Senior Vice President, Dektor, in *Moorhead Hearings* at 359 [hereinafter cited as McQuiston Testimony].

¹⁰ See generally Testimony of Charles R. McQuiston, Senior Vice President, Dektor, and John W. Heisse, Jr., M.D., President, International Society of Stress Analysts, in *Moorhead Hearings* at 313 *et seq.*

¹¹ "[T]he AM-FM range that is measured by the PSE-1 reproduced satisfactorily in recordings made from telephone conversations, radio and television" ACLU REPORTS, *supra* note 8, at 63-4, in *Moorhead Hearings* at 72-3.

¹² DEKTOR, USE OF LIE DETECTORS BY THE FEDERAL GOVERNMENT 13 (1974), in *Moorhead Hearings* at 236 [hereinafter cited as DEKTOR REPORT].

¹³ This potential for use is already becoming a reality. In 1973, George O'Toole, a former computer specialist for the CIA, performed PSE tests on recordings of Lee Harvey Oswald's

the device can be employed for this purpose. The foregoing, coupled with the fact that the PSE may be used without the knowledge of the subject, suggests frightening possibilities for its abuse.

With this in mind, this note will examine the manner in which the PSE functions and explore the legal implications stemming from its use as a lie detector. More specifically, three issues which arise in connection with the use of the PSE will be discussed: first, the validity and reliability of the PSE; second, the admissibility of PSE test results in evidence; and third, the potential remedies for subjects of PSE tests who have occasion to object.

Background

The PSE itself merely indicates levels of stress in the voice, while the examiner interprets this data and so derives a conclusion concerning the truthfulness of the subject. Because of this dichotomy, PSE advocates argue that the term "lie detector" is a misnomer, preferring instead to emphasize the concept of "stress analysis."¹⁴ The fact remains, however, that the PSE is not marketed as a device which measures the stress of the subject merely for the sake of curiosity. Rather, PSE customers are interested in using the machine solely for the purpose of detecting false statements. Consequently, the term "lie detector" is hardly misleading.

While the polygraph utilizes responses stimulated by the autonomic nervous system,¹⁵ the functional indicators of the PSE originate in the central nervous system.¹⁶ In order to more fully understand the technology underlying the PSE, some explanation of the functioning of the human voice is necessary.

Two types of sound are produced by the voice. The first of these is audible sound (AM), which is produced by both the vibration of the vocal cords (vocal cord sounds) and the resonance of the

(Continued from preceding page)

voice when he was asked by reporters if he had killed President John F. Kennedy. Specifically, O'Toole analyzed two of Oswald's responses to questions about his involvement in the assassination: "No, I have not been charged with that [killing the President]," and "I didn't shoot anybody, no sir." O'Toole's conclusion that the PSE analysis revealed Oswald did not commit the crime was confirmed by Mike Kradz, Dektor's Director of Training, and Lloyd H. Hitchcock, a well-known polygraph and PSE expert, while Gordan Barland, author of the *Barland Study*, *infra* note 35, concluded that Oswald "probably" had not shot anyone. O'Toole, *Lee Harvey Oswald Was Innocent*, PENTHOUSE, April 1975, at 45.

¹⁴ DEKTOR REPORT *supra* note 12, at 4, in *Moorhead Hearings* at 227.

¹⁵ The autonomic nervous system is

that portion of the nervous system which innervates internal organs, sweat and sebaceous glands in the skin, blood vessels and muscles around the pupil of the eye. It is divided into a parasympathetic division and a sympathetic division. These nerves are connected to and regulated by the CNS [Central Nervous System] but at a subconscious level.

C. MONTGOMERY, *MEDICAL DESK MANUAL FOR LAW OFFICES* 111 (1967).

¹⁶ Statement of John W. Heisse, Jr., M.D., President, International Society of Stress Analysts (ISSA), in *Moorhead Hearings* at 342 [hereinafter cited as Heisse Statement].

cavities of the head (formant sounds). The second type of sound is inaudible sound, which is superimposed on the audible voice frequency.¹⁷ The latter is an infrasonic frequency modulation (FM) which is present in both the vocal cord and formant sounds. This infrasonic frequency is produced by a muscle micro-tremor¹⁸ which occurs in the muscles controlling exhalation during the vocalization response.¹⁹

The operation of the PSE rests on the theory that this tremor is affected by stress. Muscular tension decreases or eliminates the muscular undulations which produce the frequency modulation, thus dampening the inaudible frequency modulation (FM) in the voice.²⁰ Hence, "[t]he strength and pattern of the . . . [FM in the voice] relate inversely to the degree of stress in the speaker at the moment of the utterance."²¹

The PSE applies this theory by identifying changes in the frequency modulation of the voice and emitting data reflecting these changes. To utilize this operation in a lie detector context, a four-part system is employed: the examiner; a tape recorder; the test subject; and the PSE instrument itself.²² This instrument produces a strip chart, not unlike that provided by a polygraph. The PSE, however, uses a single stylus instead of the three found on a polygraph, and while there is but one stylus, the electronic mode combinations allow thirty-two individual charts to be made from every recorded statement.²³

The procedure in a PSE examination necessarily varies with the purpose for which the system is used,²⁴ but a procedural model has been developed by PSE expert, Morton Sinks, which aptly illustrates the usual deception testing situation:²⁵

¹⁷ G. SMITH, ANALYSIS OF THE VOICE 2 (1973), in *Moorhead Hearings* at 269 [hereinafter cited as SMITH].

¹⁸ Lippold, *Physiological Tremor*, SCI. AM., March 1971, at 65. Dr. Heisse, President of ISSA, refers to this as the "micro-muscle" tremor. Heisse Statement *supra* note 16, at 23, in *Moorhead Hearings* at 339.

¹⁹ J. WORTH & B. LEWIS, AN EARLY VALIDATION STUDY WITH THE PSYCHOLOGICAL STRESS EVALUATOR (1974), in *Moorhead Hearings* at 285 [hereinafter cited as WORTH & LEWIS STUDY].

²⁰ DEKTOR REPORT *supra* note 12, at Annex A (Description, Patent Information: Psychological Stress Evaluator), in *Moorhead Hearings* at 238.

²¹ SMITH *supra* note 17, at 2, in *Moorhead Hearings* at 269.

²² Testimony of John W. Heisse, Jr., M.D., President, ISSA, in *Moorhead Hearings* at 350.

²³ McQuiston Testimony, *supra* note 9, in *Moorhead Hearings* at 354. One of these channels of information on the PSE is an expiratory pneumogram similar to a channel of the polygraph. Testimony of John W. Heisse, Jr., M.D., President, ISSA, in *Moorhead Hearings* at 354.

²⁴ The various studies on PSE validity discussed *infra* reflect this difference in format. See text accompanying footnotes 32-80.

²⁵ M. Sinks, The Psychological Stress Evaluator 2 (1974) (unpublished study available at The Cleveland State Law Library).

- (1) The pre-test interview: basic information about the subject is elicited, preliminary interview questions are formulated and the statement the subject will make during the test is structured;
- (2) Input: the questions are asked;
- (3) Data retrieval: a tape recording is made of the subject's answers;
- (4) Charting: the subject's oral answers are electronically converted by the PSE into mechanical motion producing measurable differences on a chart;
- (5) Interpretation of the charts: the charts are analyzed for indications of stress, relative values are assigned to the responses, and conclusions as to deception are made;
- (6) Follow-up: consists of either the elimination of suspicion or further investigation, interviewing or interrogation.

Because of the system's dependence upon the examiner for accurate test results, the training of a PSE examiner is of great importance. Dektor requires that all prospective purchasers undergo training, and in fact has reportedly refused to sell to customers who would not take the training course.²⁶ The Orientation Course is the basic course in the operation of the instrument and instruction in interpretation of strip charts. It lasts three days, with out-of-classroom work for the intervening two nights.²⁷ Also available to the customer is a continuous consultation service, and if necessary, retraining. Further, there is a two-week course available, in which the particular type of interrogation and interviewing techniques necessary for the valid operation of the PSE are taught.

With this digest of general information about the PSE as a backdrop, the remainder of this note will focus on the legal issues which arise from the use of the PSE as a technique of truth verification.

Validity and Reliability of the PSE

If the PSE is to have any value within the context of the legal system, it must be demonstrated that it is possible to detect deception both consistently and correctly by examination of the strip chart results of the PSE. To make such a determination, the concepts of "validity" and "reliability" must be addressed. Although these terms are often used interchangeably by laymen, each is a distinct concept. Validity is the determination of how well the instrument does what

²⁶ *Moorhead Hearings* at 229.

²⁷ *Id.* at 230. Army polygraph training is 14 weeks long with an internship requirement before certification is granted. See Statement of Robert Brisentine, Jr., Senior Polygraph

it purports to do,²⁸ or in this case, "the extent to which a deceptive . . . person will be identified . . . as a result of the examination."²⁹ On the other hand, in evaluating the reliability of an instrument, the inquiry is whether the instrument does what it does with repeatable consistency,³⁰ or does the PSE get the same results — whether correct or not — each time the test is given.³¹

Validity

The primary consideration in this regard is whether the PSE test is valid.³² In view of the fact that the machine itself only indicates stress on the chart and that in turn the chart must be interpreted by the examiner prior to a determination of deception, this discussion must necessarily take an examiner-machine systemic approach.³³

The question of PSE validity is simply framed: whether or not the PSE does in fact measure stress; and if it does, whether or not any examiner can isolate deception-induced stress, as opposed to that associated with anxiety, nervous tension, or some other source. There have been several empirical studies attempting to resolve this issue. A brief elucidation of their results should illustrate the status of the PSE.

Three studies have drawn positive conclusions on this issue, those by Kradz,³⁴ Barland,³⁵ and Worth and Lewis.³⁶ The *Kradz Study* was conducted in 1972 by Michael Kradz, while he was Chief Polygraph

²⁸ L. PERVIN, PERSONALITY: THEORY, ASSESSMENT AND RESEARCH 76 (1970) [hereinafter cited as PERVIN].

²⁹ G. BARLAND, THE RELIABILITY OF POLYGRAPH CHART EVALUATIONS, IN LEGAL ADMISSIBILITY OF THE POLYGRAPH 120 (N. Ansely ed. 1975) [hereinafter cited as BARLAND].

³⁰ PERVIN, *supra* note 28, at 73.

³¹ BARLAND, *supra* note 29.

³² It has been asserted that the PSE is not only as valid as the polygraph but can also be used in those situations where the polygraph is ineffective because the PSE does not require that the subject be attached to the instrument. M. KRADZ, THE PSYCHOLOGICAL 244-45 [hereinafter cited as KRADZ STUDY]. Cf. Heisse statement M..... M..... M..... M..... STRESS EVALUATOR: A STUDY 1-2 (1972), in *Moorhead Hearings* at 244-45 [hereinafter cited as KRADZ STUDY]. Cf. Heisse statement *supra* note 16, 29-31, in *Moorhead Hearings* at 345-47; discussion at note 5 *supra*.

³³ As the *Dektor Report* noted, "[I]t must be recognized that this method of establishing validity and reliability is a system evaluation, rather than component evaluation. Ultimately, this is what is important. It is the system in its entirety to which the examinee is subjected." DEKTOR REPORT *supra* note 12, at 6, in *Moorhead Hearings* at 229.

³⁴ KRADZ STUDY, *supra* note 32, in *Moorhead Hearings* at 244.

³⁵ G. BARLAND, USE OF VOICE CHANGES IN DETECTION OF DECEPTION (1973), in *Moorhead Hearings* at 283 (Abstract) [hereinafter cited as BARLAND STUDY].

³⁶ WORTH & LEWIS STUDY, *supra* note 19, in *Moorhead Hearings* at 284. For other validity studies, which were submitted for the record but did not deal with use in determining deception, see SMITH, *supra* note 17, in *Moorhead Hearings* at 268; M. BRENNER, STAGE-
<https://engagedscholarship.csiloh.edu/19741rev1/moorhead> *Hearings* at 279.

Examiner for the Howard County, Maryland, Police Department.³⁷ The experiment used 43 actual criminal suspects who were given simultaneous polygraph and PSE tests. The results indicated that the PSE test was 100% accurate in detecting deception as corroborated by independent investigation.³⁸

The *Barland Study*, conducted by Gordon Barland tested two groups, one in a low-stress situation and the other in a high-stress situation. While the PSE detection rate in the low-stress group was on par with chance,

under the high stress condition, using polygraph responses as the criterion for stress, voice changes were clearly able to distinguish between truth and deception.³⁹

The third favorable study was co-authored by James W. Worth and Bernard J. Lewis of Washington and Lee University, in 1973. Like the *Barland Study*, it was conducted in a laboratory rather than "in the field." This experiment involved 12 subjects in a wagering situation and revealed that, although the PSE did not perform successfully on the first trial, on the second trial the examiner successfully identified deceptive responses.⁴⁰ Worth and Lewis concluded that the PSE is a promising research tool, although "more scrutiny is needed to establish the limits of its capabilities."⁴¹

In contrast, the only study which was conducted both on a large scale and independent of the manufacturer reached clearly unfavorable conclusions regarding the validity of the PSE. The *Kubis Report* was prepared under a contract with the Army Land Warfare Laboratory.⁴² Dr. Joseph Kubis, the author, had previously conducted experiments on the polygraph culminating in the widely discussed *Kubis Report on the Polygraph* in 1962.⁴³

³⁷ Michael Kratz is now Director of Training for Dektor.

³⁸ KRATZ STUDY, *supra* note 32, in *Moorhead Hearings* at 249. The independent corroboration was as follows:

27 subjects cleared of suspicion by PSE:

21 — innocence corroborated by independent investigation,
6 — subjects released because no evidence to contrary.

16 subjects not cleared by PSE:

9 — guilt corroborated by investigation, with subsequent admission,
3 — by investigation, without admission,
4 — by admission of guilt and subsequent investigation.

³⁹ BARLAND STUDY, *supra* note 35, in *Moorhead Hearings* at 283.

⁴⁰ WORTH & LEWIS STUDY, *supra* note 19, in *Moorhead Hearings* at 285.

⁴¹ *Id.*

⁴² J. KUBIS, COMPARISON OF VOICE ANALYSIS AND POLYGRAPH AS LIE DETECTION PROCEDURES (1973), in *Moorhead Hearings* at 503 [hereinafter cited as KUBIS REPORT].

⁴³ See, e.g., M. Orne, R. Thackray & D. Paskewitz, *On the Detection of Deception*, in *HANDBOOK OF PSYCHOPHYSIOLOGY* 743, 757 (Greenfield & Sternbach eds. 1972); M. Orne, *Implications of Laboratory Research for the Detection of Deception*, in *LEGAL ADMISSIBILITY OF THE POLYGRAPH* 111 (N. Ansley ed. 1975); *Validity Panel*, in *LEGAL ADMISSIBILITY OF THE POLYGRAPH* 163 (N. Ansley ed. 1975).

The express purpose of the Kubis study was to evaluate the capability of voice analysis as a lie detection technique.⁴⁴ PSE results were compared with polygraph results, as well as judgments based on observation of the verbal and non-verbal behavior of 174 subjects. The structure of the experiment was a "simulated theft" paradigm,⁴⁵ in which examiner determination of deception was made by both individual and triad analysis.⁴⁶

The results of the Kubis study revealed that the PSE failed to demonstrate effectiveness in detection of deception in a laboratory situation.⁴⁷ When the PSE examiner used the individual analytic mode, the results were an embarrassing 33%,⁴⁸ which, in the context of the experiment, were virtually the same as chance. The results were also disappointing under triad analysis: a meager 19% accuracy score when the PSE and polygraph were operated simultaneously,⁴⁹ and 53% for tests conducted when only the PSE was used.⁵⁰ But the Tape Monitors, individuals charged with the responsibility of monitoring the taping equipment and observing the subjects' behavior during the test, made their evaluations of deception only on their immediate global impressions and scored an amazing 89%.⁵¹

On the basis of this data Dr. Kubis concluded that the PSE cannot be "accepted as a valid 'lie detector' within the constraints of an experimental paradigm."⁵²

⁴⁴ KUBIS REPORT, *supra* note 42, at 1, in *Moorhead Hearings* at 508. This study also tested the Voice Stress Analyzer and made the same basic conclusions with regard to this device.

⁴⁵ In the simulated theft paradigm the group of 174 Fordham University students in the experiment was first divided into groups of three (triads). Two members of each triad were separated from the third and drew lots to take the role of Thief or Lookout in the following scenario. The Thief was instructed to enter an unoccupied office, examine the contents of a woman's purse lying on a desk there and remove a change purse containing twenty-one dollars around which a red ribbon had been wrapped. The Lookout, although he accompanied the Thief to the office, was unaware of what was stolen. The third member of the triad took the role of Innocent Suspect, and was told only that there had been a theft of some money in an office. He also was told to answer all questions truthfully while the Thief and Lookout were to deny all involvement with the theft. Each member of the triad was instructed to give a "yes" or "no" answer to a questionnaire of 30 questions. KUBIS REPORT, *supra* note 42, at 8-9, in *Moorhead Hearings* at 514-15.

⁴⁶ In triad analysis, the rater has the records of all three members of the triad before him for comparison. If he correctly identifies who played two of the roles, he necessarily will correctly identify the third member's role. In individual analysis, on the other hand, the judgment as to subject involvement is made by the rater on the basis of the strip chart of that record alone. *Id.* at 13, in *Moorhead Hearings* at 519.

⁴⁷ *Id.* at iii, in *Moorhead Hearings* at 505.

⁴⁸ *Id.* at 23, in *Moorhead Hearings* at 529.

⁴⁹ *Id.* at 24, in *Moorhead Hearings* at 530.

⁵⁰ *Id.*

⁵¹ *Id.* at 25, in *Moorhead Hearings* at 531.

⁵² *Id.* at 23, in *Moorhead Hearings* at 539.

In response to this report, Dektor prepared a position paper entitled *The Kubis Report of 1973: An Invalid Study*,⁵³ which was submitted for the record of the Hearings conducted by the Foreign Operations and Government Information Subcommittee on June 4-5, 1974.⁵⁴ This paper attacked the *Kubis Report* on three major grounds: (1) that the government contract objectives were not met by the study; (2) that several required specifications of that contract were not reported in the report Kubis submitted; and (3) that the *Kubis Report* per se was scientifically invalid because of insufficient variable control in the experiments.⁵⁵

The first of these allegations was based on Dektor's view that the contract required the study to be conducted in as realistic a setting as possible.⁵⁶ In their opinion, actual criminal suspects should have been employed in the experiment so as to heighten the stress situation. They further criticized the type of questions used in the interrogation, as well as the use of triad analysis in determining deception,⁵⁷ because such analysis is not utilized in an actual examination.

Their second ground of attack was founded on the absence of certain data in the report which the contract had specified for inclusion.⁵⁸ They were particularly disturbed that the PSE and the polygraph were not operated simultaneously in every trial of the experiment. Moreover, they charged that some of the PSE tapes were of such poor quality that they could not be evaluated.

Finally Dektor attacked the very validity of the study itself on the grounds of insufficient control of the variables.⁵⁹ The company cited, *inter alia*, the lack of control questions to establish stress induced by deception only, and the failure to eliminate or avoid emotion-producing words in the questions, as is done in an actual test.⁶⁰ Further, Dektor contended that the Kubis experiment failed to provide for an adequate evaluation of the reliability of the PSE since only one examiner was involved in the PSE analysis, whereas several

⁵³ DEKTOR, THE KUBIS REPORT OF 1973: AN INVALID STUDY, in *Moorhead Hearings* at 301 [hereinafter cited as DEKTOR CRITICAL ANALYSIS].

⁵⁴ *Hearings on the Use of Polygraphs and Similar Devices by Federal Agencies Before the Subcomm. on Foreign Operations and Government Information of the House Comm. on Government Operations*, 93d Cong., 2d Sess. (1974).

⁵⁵ DEKTOR CRITICAL ANALYSIS, *supra* note 53, in *Moorhead Hearings* at 301.

⁵⁶ *Id.* at 1, in *Moorhead Hearings* at 301.

⁵⁷ *This type of analysis is neither realistic or possible to the real polygraph examiner, who in any investigation of a group of three suspects involved in a single crime, is faced with the fact of ten possible combinations of criminals, accomplices, and/or innocents.*

Id. at 2, in *Moorhead Hearings* at 302 (emphasis in original).

⁵⁸ *Id.* at 2-3, in *Moorhead Hearings* at 302-3.

⁵⁹ *Id.* at 3, in *Moorhead Hearings* at 303.

⁶⁰ *Id.*

polygraph experts evaluated each polygram.⁶¹ Based on the foregoing, Dektor concluded that it was entitled to restitution in the form of a public declaration of the lack of validity of the *Kubis Report*.⁶²

Dr. Kubis, addressing the attack launched by Dektor against his study, has indicated that he stands steadfast on his original conclusion that the PSE has not been demonstrated to possess the necessary scientific validity.⁶³

In responding to Dektor's first allegation that contract objectives were not met, Dr. Kubis defended his use of triad analysis in the experiment on the grounds that this mode of analysis had the advantages of being "simple," "complete," and "readily analyzable."⁶⁴ As to Dektor's criticism that he should have used actual criminal suspects, he responded, "Over the past 20 years, lie detection research at Fordham has been done with *non-criminal* suspects. This is well known in the field and was, of course, known by the contracting agency."⁶⁵ He further listed what he believed to be "insurmountable difficulties" that the use of criminal suspects presented in the experimental environment, among them the fact that there were too many variables in the suspects themselves and the crimes committed to make such an experiment valid, as well as the difficulty in establishing proof of accuracy of the test in such a situation.⁶⁶

Moreover, it is Dr. Kubis' contention that his report met all contract specifications as well.⁶⁷ He stated that there was no requirement that each subject be tested on both the PSE and polygraph, and explained that some subjects were tested only by the former because it was suspected that the polygraph attachment may have inhibited the voice records.⁶⁸ As to Dektor's charge that the tapes were of inferior

⁶¹ Dektor further asserted in this regard that

when the question structure was shown to the expert examiner who had been selected for the voice analysis part of the study, he refused to participate and resigned from the study.

Id. The PSE expert to which Dektor referred was Mike Kradz, author of the *Kradz Study*; he was replaced by Gordon Barland, author of the *Barland Study*.

⁶² *Id.* at 4, in *Moorhead Hearings* at 304.

⁶³ Letter from Joseph F. Kubis, July 22, 1974, on file in The Cleveland State Law Library. Accompanying this letter was a report Dr. Kubis prepared in response to Dektor's charges. This report, *Comments of J. F. Kubis on the Dektor Report*, is also on file in the law library [hereinafter cited as KUBIS COMMENTS].

⁶⁴ KUBIS COMMENTS, *supra* note 63 at 2.

⁶⁵ *Id.*

⁶⁶ *Id.* at 2-3.

⁶⁷ *Id.* at 4.

⁶⁸ This concern appears to have been borne out by the results of the Kubis experiment: the results from testing by PSE alone indicated 53% accuracy while combined polygraph-PSE tests resulted in 19% accuracy. See notes 48, 51 *supra*, and accompanying text.

quality, Dr. Kubis responded that this had no effect on the study since the PSE expert was asked to analyze only those records which he felt he could confidently rate.⁶⁹

Dr. Kubis responded to Dektor's charge of the invalidity of the study itself by noting that the questionnaire which was used in the experiment had previously been found to be "completely adequate for experimental work."⁷⁰ Moreover, he stood behind the choice to use only one PSE examiner by asserting that the issue should be only "how accurate and expert the rater or examiner is."⁷¹ It should also be noted that elsewhere Dr. Kubis explained his difficulty in obtaining a PSE examiner to participate in the study;⁷² the one expert that was used was Gordon Barland, an established PSE and polygraph expert and the author of the *Barland Study*.⁷³

Dr. Kubis concluded his comments on the Dektor paper by counter-charging that it "manifests a surprising scientific naivete or a selective distortion of the facts as presented in the Kubis report."⁷⁴ Finally, he emphasized that "the records in the Kubis experiment were analyzed by an expert in the Dektor technique using a Dektor instrument. This man, Dr. Barland, was trained and certified at the Dektor training center. He is also an outstanding investigator in the field of lie detection."⁷⁵

The most recent study on validity of the PSE, the *Dahm Study*, was undertaken by Dektor in preparation for the Hearings before the House Subcommittee.⁷⁶ A survey of 423 PSE customers sought to establish its validity in actual field use. A total of 39,329 PSE tests were reported by the 46 customers who responded, a substantial number of which were simultaneous polygraph and PSE tests.⁷⁷ Insofar as the

⁶⁹ KUBIS COMMENTS, *supra* note 63, at 5.

⁷⁰ *Id.* at 6.

⁷¹ *Id.* at 7.

⁷² According to Dr. Kubis, Mike Kradz initially indicated his willingness to take part in the study and then asked to be relieved of his obligation; but at no time

did he state that the questionnaire structure used in the project was invalid or that it was the reason for his resignation from the project. If he had such thoughts, he was not honest in his dealings with me. I suspect he may have developed these thoughts after he learned of the results of the Kubis study and the search for a rebuttal began.

Id. at 4.

⁷³ See BARLAND STUDY, *supra* note 35, in *Moorhead Hearings* at 283.

⁷⁴ KUBIS COMMENTS, *supra* note 63, at 7.

⁷⁵ *Id.* at 8.

⁷⁶ DAHM STUDY, *supra* note 7, in *Moorhead Hearings* at 255.

⁷⁷ *Id.* at 3 in *Moorhead Hearings* at 257. Fifteen examiners had conducted 5,579 simultaneous polygraph and PSE tests; Dektor reported that five of these examiners did not indicate the degree of correlation between the two instruments. The remaining ten accounted for 5,045 examinations. Of these, the two instruments resulted in the same findings in 5,037 cases, for 99.85% correlation.

confirmation of deception conclusions were concerned, the study indicated that every PSE examination had been accurate, although only twenty percent of these were independently corroborated.⁷⁸

Several comments are in order regarding this study. Dektor can hardly be considered a disinterested party in the controversy over the validity of the PSE, especially in light of the furor generated by the *Kubis Report*. Moreover, the simultaneous polygraph-PSE test is tainted from the presence of too many variables in the study. In this testing situation, as with the Barland and Kradz studies,⁷⁹ the same examiner would likely have been interpreting charts from both machines, as well as having the benefit of observing the subject's behavior during the examination. As the *Kubis Report* revealed, the latter factor can be significant in detecting deception. In addition, it is suggested that the PSE examiner has a vested interest in obtaining identical results from the two lie detectors.

As for the confirmation statistics, only the twenty percent figure can be deemed at all significant; the mere fact that the examiners did not later learn of their mistakes does not mean that mistakes were not made. Furthermore, the significance of even this figure is suspect, since where corroboration was reported, no explanation of its nature was provided. Consequently, rather than resolving the controversy over the validity of the PSE, the *Dahm Study* has added little more than confusion.

The dialogue between Dektor and Dr. Kubis has proven instructive in the sense that a number of the issues which will be hotly debated in future years have been clearly drawn: who should conduct the experiments on the PSE; what form should the experimentation take to fairly test the PSE; and where should validity studies be conducted, in laboratory or in actual testing situations. No doubt other issues will develop as further study is made of this new device.

Reliability

A discussion of reliability focuses on two components of the PSE, the instrument and the examiner. Instrument reliability is provided by internal calibration signal circuitry which affords almost instantaneous recalibration in an actual testing situation.⁸⁰ As such, the reliability of the examiner in his role as interpreter of the strip charts presents the far more important issue.

⁷⁸ *Id.* Nineteen respondents indicated that of the 10,202 examinations conducted, they reported not one case in which the findings of the PSE examination had been inaccurate. Additionally . . . 2,285 examinations, or over 20% of those reported, were corroborated independently.

⁷⁹ BARLAND STUDY, *supra* note 35, in *Moorhead Hearings* at 283; KRADZ STUDY, *supra* note 32, in *Moorhead Hearings* at 244.

⁸⁰ DEKTOR REPORT, *supra* note 12, at 7, in *Moorhead Hearings* at 230.

Examiner reliability is essentially the probability of identical conclusions being drawn by several individual analysts when interpreting a given set of strip charts. Recognizing that the machine itself merely registers stress, with reliance placed entirely upon the examiner to isolate deception related stress, it is surprising that the furor over the validity of the PSE has not carried over to the issue of examiner reliability.

Moreover, the seriousness of this issue is highlighted when the revelations of the *Kubis Report* are examined. Dr. Kubis found that success at perceiving deception is significantly affected by mere observation of the subject's behavior during the course of interrogation. To be sure, concern over examiner subjectivity is not limited to the PSE; criticism of this nature has long been directed towards the polygraph.⁸¹ Nevertheless, the mere fact that the issue is not peculiar to the PSE will not dispose of the problem. Rather, in light of the short training program afforded the PSE examiner,⁸² the problem is magnified to the point where skepticism toward examiner reliability may be well founded.

The manufacturer, in response to the reliability issue, has utilized two divergent procedures in attempting to minimize possible adverse effects. On the one hand, through a consultation service, it provides its customers with corroboration in the interpretation of charts.⁸³ On the other, it has expended considerable time and effort in lobbying for state licensing of PSE examiners.⁸⁴

It is highly questionable whether these efforts will be sufficient. Rather, the need for additional independent research in this area is appallingly evident. Until such time as the scientific basis for the PSE has been established through further research, a healthy skepticism of its results is clearly warranted.

Admissibility in Evidence of PSE Results

The analysis of whether results of a PSE examination should be deemed admissible in evidence in a legal proceeding will entail consideration of the following five issues:

- (1) the PSE as a new type of scientific evidence;
- (2) PSE tests result as hearsay;
- (3) the conflict between the sixth amendment and the PSE;
- (4) the effect of the PSE on the integrity of the judicial process; and
- (5) the weight to be accorded the PSE.

⁸¹ See, e.g., Statement submitted by Sen. Sam Ervin (D-N.C.) for record of *Moorhead Hearings* at 785 [hereinafter cited as Sen. Ervin's Statement].

⁸² See text accompanying note 27 *supra*.

⁸³ DEKTOR REPORT, *supra* note 12, at 7, in *Moorhead Hearings* at 230.

⁸⁴ See, e.g., Proposed Florida Senate Bill 571, attached to Exhibit B to Answers of Charles R. McQuiston to Moorhead Committee Question 7, in *Moorhead Hearings* at 366.

Scientific Evidence

The term "scientific evidence" has apparently never been given a legal definition. For purposes of this discussion the term will refer to that evidence derived from an instrument which purports to be constructed on scientific principles which will aid the trier of fact in evaluating credibility.⁸⁵ Obviously, this type of evidence has assumed a greater role in the legal system as technology has advanced. At one time when the courts confronted scientific evidence, they employed the traditional test of admissibility for an expert witness, *i.e.*, (1) the subject of the testimony had to be of a nature beyond the knowledge of the average layman; and (2) the witness had to possess sufficient knowledge, skill or experience in that field such that his opinion would probably aid the trier of fact.⁸⁶

The special approach now taken with scientific evidence was first formulated in 1923, in *Frye v. United States*.⁸⁷ In order to establish his innocence in a prosecution for murder, the defendant in *Frye* had submitted to a type of lie detector test.⁸⁸ The trial court sustained the prosecutor's objection to the testimony of the test administrator and the defendant was convicted. On appeal, the Court of Appeals for the District of Columbia Circuit upheld the exclusion of this scientific evidence, and in so doing, promulgated the currently accepted test for admissibility of scientific evidence:

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 principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general scientific acceptance in the field to which it belongs.⁸⁹

The *Frye* test has not been without its critics. Dean Wigmore proposed an alternative test for dealing with polygraphic evidence which

⁸⁵ *Cf.*, J. WIGMORE, SCIENCE OF JUDICIAL PROOF 450 (3d ed. 1937) [hereinafter cited as WIGMORE].

⁸⁶ MCCORMICK'S HANDBOOK OF THE LAW OF EVIDENCE § 13 (2d ed. E. Cleary, 1972) [hereinafter cited as MCCORMICK'S].

⁸⁷ 293 F. 1013 (D.C. Cir. 1923).

⁸⁸ The Marston deception test was one of the earliest lie detectors. It functioned by recording the subject's systolic blood pressure during interrogation. R. FERGUSON & A. MILLER, THE POLYGRAPH IN COURT 37 (1973) [hereinafter cited as FERGUSON & MILLER].

⁸⁹ 293 F. at 1016. Ironically, the defendant had served three years of a life sentence when another person confessed to the crime. NEW YORK JUDICIAL COUNCIL FOURTEENTH ANNUAL REPORT 265 (1948), in FERGUSON & MILLER, *supra* note 88, at 27.

strongly resembles the traditional expert witness rule,⁹⁰ while Professor McCormick suggested the test requires the proposed evidence to meet a higher standard than is proper:

“General scientific acceptance” is a proper condition upon the court’s taking judicial notice of scientific facts, but not as a criterion for the admissibility of scientific evidence.⁹¹

Be that as it may, the *Frye* test has long since been accepted by nearly all courts when addressing the admissibility of a wide variety of scientific evidence.⁹² Two specific types of scientific evidence are particularly analogous to the PSE and thus relevant to an analysis of whether the PSE should or will be given judicial approval.

The first is spectrographic evidence, or a voice spectrogram produced by a spectrograph machine, being essentially a graphic record of the human voice.⁹³ For spectrographic analysis the subject’s voice is recorded and the patterns are transferred onto a spectrogram for analysis. The spectrograph is founded upon the theory that, like fingerprints, no two human voice patterns are identical.⁹⁴

A survey of the admissibility status of the spectrograph reveals its growing acceptance by the courts. As one commentator observed,

while the lie detector continues to struggle for acceptance as criminal evidence, voiceprint analysis is gradually settling into a comfortable slot in the forensic science arsenal.⁹⁵

Though voice identification by ear has been acceptable in some jurisdictions for a number of years,⁹⁶ the turning point in admissibility of the spectrograph in state courts came in 1972 when the Supreme Court

⁹⁰ Dean Wigmore proposed a three-pronged approach to admissibility of scientific evidence:

A. The type of apparatus purporting to be constructed on scientific principles must be accepted as dependable for the proposed purpose by the profession concerned in that branch of science or its related art. This can be evidenced by qualified expert testimony; or, if notorious, it will be judicially noticed by the judge without evidence.

B. The particular apparatus used by the witness must be one constructed according to an accepted type and must be in good condition for accurate work. This may be evidenced by a qualified expert.

C. The witness using the apparatus as a source of his testimony must be one qualified for its use by training and experience.

WIGMORE, *supra* note 85, at 450.

⁹¹ MCCORMICK’S, *supra* note 86, at § 203.

⁹² See *Lindsey v. United States*, 16 Alas. 268, 237 F.2d 893 (9th Cir. 1956) (sodium pentothal test); *Jordan v. Mace*, 145 Me. 351, 69 A.2d 670 (1949) (blood grouping tests for paternity); *People v. Morse*, 325 Mich. 270, 38 N.W.2d 322 (1949) (chemical intoxication tests).

⁹³ *United States v. Raymond*, 337 F. Supp. 641, 642 (D.D.C. 1972). For a general discussion of spectrographic evidence, see Jones, *Danger—Voiceprints Ahead*, 11 AMER. CRIM. L. REV. 549 (1973); Note, *Voiceprints*, 61 GEO. L.J. 703 (1973); Note, *The Voiceprint Technique: A Problem in Scientific Evidence*, 18 WAYNE L. REV. 1365 (1972).

⁹⁴ Note, *Voiceprint Identification: The Trend Towards Admissibility*, 9 NEW ENG. L.R. 419, 424 (1974).

⁹⁵ *In the Courts*, 13 CRIM. L. RPTR. 2197, 2203 (1973).

⁹⁶ See cases cited in Annot. 70 A.L.R.2d 995 (1960).

of Minnesota held in *State ex. rel. Trimble v. Hedman*,⁹⁷ that voice-prints were admissible to corroborate voice identification by ear. Simultaneously, two appellate courts in Florida ruled favorably on the admissibility of this type of evidence;⁹⁸ while the New Jersey Supreme Court suggested it might reconsider its prior negative stance on the issue.⁹⁹

In the federal court system, a government motion to admit spectrographic evidence was granted by the District Court of the District of Columbia in *United States v. Raymond*.¹⁰⁰ But the court of appeals per Judge McGowen concluded that the spectrograph was not yet sufficiently accepted by the scientific community as a whole and thus held admission of such evidence to be erroneous.¹⁰¹ The absence of further rulings on the issue by federal appellate courts, however, precludes as premature any conclusions as to the future of the spectrograph in the federal system.

The second type of scientific evidence relevant to this analysis is that occasioned through the use of the polygraph. The treatment accorded the polygraph by the courts has been rather cavalier. Judicially sustained resistance to its acceptance has been so widespread as to elicit the response from one commentator that the courts are looking for infallibility of the technique before according their approval.¹⁰²

Until very recently, the admissibility status of the results of lie detectors as a whole and polygraphs in particular had changed little since *Frye*. In his 1953 review of the polygraph's status, Dean Wicker noted that nearly all the courts which had confronted the issue

parrot[ed] the language of the *Frye* case of 1923 and [gave] as the principal reason for excluding test results that they have not yet gained such standing and 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.¹⁰³

It is only within the last few years that the sea has begun to part.

⁹⁷ 291 Minn. 442, 192 N.W.2d 432 (1972).

⁹⁸ *Alea v. State*, 265 So. 2d 96 (Fla. Ct. App. 1972); *Worley v. State*, 263 So. 2d 613 (Fla. Ct. App. 1972).

⁹⁹ *State v. Andretta*, 61 N.J. 544, 296 A.2d 644 (1972).

¹⁰⁰ 337 F. Supp. 641 (D.D.C. 1972), *aff'd*, 498 F.2d 741 (D.C. Cir. 1974).

¹⁰¹ 498 F.2d 741 (D.C. Cir. 1974) (decision affirmed because admissibility of spectrographic evidence did not require reversal in light of overwhelming evidence of guilt).

¹⁰² F. BAILEY & H. ROTHBLATT, INVESTIGATION AND PREPARATION OF CRIMINAL CASES § 379 (1970).

¹⁰³ Wicker, *The Polygraphic Truth Test and the Laws of Evidence*, 22 TENN. L. REV. 711, 723 (1953).

By and large, the extent to which the courts have permitted polygraph test results to enter the judicial process has been limited to admission under stipulation. In 1948, the Supreme Court of California in *People v. Hauser*,¹⁰⁴ became the first court to grant such admissible status. Since that time a growing minority of jurisdictions have followed this lead.¹⁰⁵

The State of Ohio recently joined these ranks in *State v. Towns*,¹⁰⁶ when the Court of Appeals for Franklin County held that

where parties stipulate in writing to take a polygraph test and be bound thereby and where pursuant to such stipulation such test is properly given, the results are admissible at trial.¹⁰⁷

In a significant departure from prior case law, however, the court went on to state that

where evidence is introduced by one side that a person has submitted to a lie detector test, the court in its sound discretion may admit evidence of the results of the test, to the extent necessary to remove prejudice which may ensue from the introduction of the original evidence.¹⁰⁸

With this statement the court apparently extended the reach of the admissibility standard to include situations wherein prejudice would otherwise result.

Recent years have also witnessed the liberalization of several federal courts in this regard, with court decisions indicating judicial recognition of results even without stipulation of the parties. The Tenth Circuit was the first to suggest such a holding in *United States v. Wainwright*,¹⁰⁹ where they noted, in denying admission of polygraphic evidence, that in a proper case, it would be accepted. Similarly, Judge Thompson, of the Southern District of California, in *United*

¹⁰⁴ 184 Cal. 418, 193 P.2d 937 (Cal. App. 1948).

¹⁰⁵ The following jurisdictions permit admissibility by stipulation: *Arizona*, *State v. Valdez*, 91 Ariz. 274, 371 P.2d 894 (1962); *California*, *People v. Davis*, 270 Cal. App. 2d 841, 76 Cal. Rptr. 247 (1969); *Florida*, *Butler v. State*, 228 So. 2d 421 (Fla. Ct. App. 1969); *Illinois*, *People v. Potts*, 74 Ill. App. 2d 301, 220 N.E.2d 251 (1966); *Iowa*, *State v. McNamara*, 252 Iowa 19, 104 N.W.2d 568 (1960); *Missouri*, *State v. Fields*, 434 S.W.2d 507 (Mo. 1968); *New Jersey*, *State v. McDavitt*, 62 N.J. 36, 297 A.2d 849 (1972); *Ohio*, *State v. Towns*, 35 Ohio App. 2d 237, 301 N.E.2d 700 (1973); *Utah*, *State v. Rowley*, 15 Utah 2d 4, 386 P.2d 126 (1963); *Wisconsin*, *State v. Stanislawski*, 62 Wis. 2d 730, 216 N.W.2d 8 (1974).

¹⁰⁶ 35 Ohio App. 2d 237, 301 N.E.2d 700 (1973).

¹⁰⁷ *Id.* at 246, 301 N.E.2d at 706-07.

¹⁰⁸ *Id.* at 246, 301 N.E.2d at 707.

¹⁰⁹ 413 F.2d 796 (10th Cir. 1969).

States v. DeBetham,¹¹⁰ implied in an extensive opinion on the "general acceptance" question, that it was only prior Ninth Circuit decisions on the issue that precluded admission of the proffered tests without stipulation.¹¹¹

The leading decision on this issue, however, came in October, 1972 in *United States v. Ridling*,¹¹² when the District Court for the Eastern District of Michigan per Judge Joiner held that polygraph test results were admissible at the behest of the defendant provided he would agree to certain procedural terms. Post-*Ridling* decisions have divided on this issue. In a case decided the same year, the District Court for the District of Columbia, in *United States v. Zeiger*,¹¹³ arrived at essentially the same result, only to have the decision overturned by the District of Columbia Circuit Court of Appeals.¹¹⁴ However, in *People v. Cutter*,¹³⁵ a California Superior Court, citing *Ridling*, substantially followed its holding.

The foregoing suggests that it is only time which stands between the polygraph and judicial recognition of its admissibility. Recent decisions in both state and federal courts indicate that it will shortly reach the stage where it will be deemed to have met the difficult standard of admissibility for scientific evidence.

Against this background, the present inquiry will assess whether the PSE can be said to meet the requirements for admissibility of *Frye v. United States*, i.e., has the PSE gained "general acceptance in the particular field to which it belongs"?

The central issue in this regard is the determination as to which field the PSE belongs. Although *Frye* enunciated a general test, the success of the PSE in meeting its criterion will turn on the interpretation of this phrase. Should the courts adopt a narrow interpretation, the PSE is likely to be deemed admissible. Conversely, a broad interpretation will almost surely prevent its admission.

In considering scientific evidence, several courts have given the phrase a narrow interpretation. In *Huntington v. Crowley*,¹¹⁶ the court in ruling on a new blood grouping system, restricted the "field" to that of "disputed paternity testing." In construing evidence of Nal-line test results, the court in *People v. Williams*,¹¹⁷ constricted the

¹¹⁰ 348 F. Supp. 1377 (S.D. Cal. 1972).

¹¹¹ *Id.* at 1391.

¹¹² 350 F. Supp. 90 (E.D. Mich. 1972).

¹¹³ 350 F. Supp. 685 (D.D.C. 1972).

¹¹⁴ *United States v. Zeiger*, 475 F.2d 1280 (D.C. Cir. 1972).

¹¹⁵ 12 CRIM. L. RPTR. 2133 (Cal. Sup. Ct., Nov. 6, 1972).

¹¹⁶ 64 Cal. 2d 647, 414 P.2d 382, 51 Cal. Rptr. 254 (1966).

¹¹⁷ 164 Cal. App. 2d 858, 331 P.2d 251 (1958).

field to "those who would be expected to be familiar with its use."¹¹⁸ And in perhaps the narrowest possible interpretation, one court found the field could consist of but one person.¹¹⁹

Conversely, the phrase has often been given a broad construction. *Raymond v. United States*¹²⁰ is an excellent illustration. The court, concerned with spectrographic evidence, noted that the instrument had not gained acceptance by the "scientific community as a whole."¹²¹ This approach has seen its most consistent application in the line of cases dealing with the polygraph. Thus, although polygraphers have long accepted the general scientific validity and reliability of polygraphic evidence, the courts have approached the test globally, focusing on the "general acceptance" aspect. In so doing, they have virtually ignored the words "particular field to which it belongs," and centered their determination on how reliable and valid the instrument is considered to be in the scientific community. Moreover, if any serious conflict is found to exist, the courts have been inclined to deny admission.¹²²

Thus, the judicial interpretation of the *Frye* test suggests two related yet distinct trends which may prove helpful in predicting the outcome of the PSE admissibility issue. In dealing with the admissibility of lie detection results from the polygraph, the courts have employed a broad approach, focusing on the general acceptance of the scientific community as a whole. More importantly, in utilizing this approach the courts have indicated that, until very recently, the polygraph had failed to attain such a level of acceptance, resulting in an inadmissible status.

In view of this stance, it seems unlikely that the PSE will meet the *Frye* standard at the present time. In this regard, perhaps the single most serious problem facing the PSE is the simple fact that it lacks acceptance even in the limited field of lie detection. While PSE experts themselves are generous in their praise of the instrument's validity and reliability, the Board of Directors of the American Polygraph Association (APA) adopted a resolution expressing their disapproval of "the Dektor Psychological Stress Evaluator as the source of, or a major contributor to a determination of truth or

¹¹⁸ *Id.* at 862.

¹¹⁹ *Coppolino v. State*, 223 So. 2d 68 (Fla. App. 1969), *cert. denied*, 399 U.S. 927 (1970) (one toxicologist who developed a method for detecting succinic acid).

¹²⁰ 337 F. Supp. 641 (D.D.C. 1972), *aff'd*, 498 F.2d 741 (D.C. Cir. 1974).

¹²¹ *Id.* at 642.

¹²² Nearly all cases dealing with the polygraph reflect this approach. See also *United States v. Raymond*, 337 F. Supp. 641 (D.D.C. 1972), *aff'd*, 498 F.2d 741 (D.C. Cir. 1974), where spectrographic evidence was excluded because there was conflicting testimony.

deception in a meaningful testing situation."¹²³ The APA based their disapproval on three basic failings. It felt that the PSE fell below the minimum instrument standards of the polygraph, that examiner training did not comport with APA requirements, and that the system offered potential opportunity for the violation of constitutional rights.¹²⁴

Moreover, in the context of a judicial evaluation, the *Kubis Report* casts strong doubts on the validity and reliability of the instrument. And any attempt to offset the adverse results of the *Kubis Report* with findings from the more favorable studies is unlikely to shift the balance in favor of admissibility. An analysis of the interpretation given the *Frye* test in polygraph decisions, when taken together with the strong resemblance the PSE bears to the polygraph, will admit of no other result.

To date, the PSE has come in contact with the judicial system in four distinctly different situations. The attitudes of the institutions involved in these encounters harbor substantial import when assessing the likelihood of judicial recognition of PSE admissibility.

The first of these situations involved the use of the PSE as an investigative aid. This use resulted in dismissal of charges by the state of Maryland in three cases after stipulated PSE tests indicated the innocence of the defendants.¹²⁵ In an analogous case in the same state, the defendant pleaded guilty after submitting to a test which indicated his culpability.¹²⁶ The significance of these cases stems from the willingness of the state to place such strong reliance on the PSE results. This is remarkable in light of the relatively short history of the device and the paucity of empirical evidence substantiating either its validity or its reliability.

The second such situation again occurred in Maryland, where in *State v. Brooks*,¹²⁷ the defendant had been convicted of murder and had served seven years of a life sentence. Upon stipulation by the

¹²³ Resolution of August 19, 1973 of the Board of Directors of American Polygraph Association, submitted for the record by J. Kirk Barefoot, Chairman, Legislative and Law Committee, American Polygraph Association (APA), in *Moorhead Hearings* at 218-19 [hereinafter cited as APA Resolution]. This opposition to the PSE by the APA is obviously quite distressing to those who advocate its use. They consider the APA's negative stance to be the result of jealousy over the fact that the PSE works where the polygraph cannot. See, e.g., Kaiser, *The JFK Assassination: Why Congress Should Reopen the Investigation*, ROLLING STONE, April 24, 1975, at 37. Indeed, one PSE expert, Robert W. Cormack, Executive Vice President of Personnel Security Corp. of Oakbrook, Illinois, has gone so far as to suggest that "It would appear that opposition of PSE use smacks of possible conspiracy by some members of the polygraph field to prevent P.S.E. use for their own self-interest and financial protection." Letter to Col. Charles McQuiston, March 18, 1974.

¹²⁴ APA Resolution, *supra* note 123, in *Moorhead Hearings* at 219.

¹²⁵ *State v. Goodman*, Nos. CR 5318, 5319, 5320 (Cir. Ct. Howard County, Md., 1971); *State v. King*, No. CR 10271 - 4902 (10th Dist. Ct. Howard County, Md., 1972); *State v. Jackson*, Nos. CR 10271 - 5073, - 5074 (19th Dist. Ct. Howard County, Md., 1972).

¹²⁶ *State v. Mills*, No. CR 10271 - 4934 (10th Dist. Ct. Howard County, Md., 1972).

¹²⁷ No. C8670 (Cir. Ct. Anne Arundel County, Md., Jan. 19, 1966).

state, the defendant was administered a PSE test which indicated that at worst he was guilty of manslaughter. A subsequent petition to the governor resulted in the pardon of the defendant.¹²⁸ The similarity of the Maryland situations suggest that it is the state itself which is enamored of the PSE, as opposed to its courts. Whether this is justified is doubtful. There appears, however, to be no indication that other jurisdictions share this feeling.

The third situation occurred where an Ohio trial court ruled directly on the admissibility of a PSE test.¹²⁹ The court, in ruling against its admissibility, applied a standard of "acceptance equivalent to the polygraph machine in the community."¹³⁰ While the court was mistaken in failing to limit inquiry to the scientific community, its holding suggests that, at a minimum, acceptance by the scientific community will be necessary before the PSE meets the *Frye* standards.

The final situation involved two cases with circumstances so unique as to prompt the courts to admit the results of PSE tests into evidence. Unlike the direct approach to the issue taken in the Ohio case, defense counsel in the case of *People v. Herm*¹³¹ was successful in obtaining admission of PSE evidence by virtue of its having formed the basis of a psychiatrist's expert testimony relating to the defendant. Defense counsel recognized the inherent problem with psychiatric testimony, *i.e.*, the psychiatrist's opinion is dependent upon the patient's having been truthful in discussing his experiences. The problem was countered by making available to the doctor the PSE test results, and he was permitted to testify that the results indicated the defendant's truthfulness, thus giving credence to the psychiatrist's professional opinion. In so doing, the results of the PSE test were admitted into evidence.

In *State v. Brummley*,¹³² the defendant submitted to two PSE tests, both producing results adverse to his case, and subsequently made a full confession of his involvement in the crime. At both the hearing on the motion to suppress the evidence and the subsequent trial, the defendant's counsel attempted to demonstrate the involuntariness of the confession by contending that the administration of the PSE tests created a situation of duress. To support this contention, detailed evidence of the questions the defendant was asked during

¹²⁸ Telephone interview with Donald MacIntosh, April 2, 1975. Mr. MacIntosh was the attorney responsible for setting in motion the events which led to Mr. Brooks' release.

¹²⁹ *State v. Springer*, CP No. 10770 (C.P. Cuyahoga County, Ohio, 1974).

¹³⁰ Record at 256, *State v. Springer*, CP No. 10770 (C.P. Cuyahoga County, Ohio, 1974).

¹³¹ No. C 32133 (Mun. Ct. West Orange County, Calif., Aug. 5, 1974). Information on this case provided through telephone interview with Richard A. Caillouette, attorney for the defendant, April 3, 1975.

¹³² Docket No. 10,199 (5th Jud. Dist. Ct. Parish of West Carroll, La., 1974).

the test, the manner in which the test was conducted, and the operations of the PSE itself were introduced. The State responded by arguing that, since substantial evidence as to the defendant's having taken the test had been admitted, the PSE test result should be admitted as well. Defense counsel did not object, and the judge agreed, in the interest of fairness, to admit the inculpatory test results.¹³³

Two views of *Brummley* are supportable. Since both parties agreed to the admission of the test results, the case can be characterized as one involving admission by stipulation. This is analogous to the status of the polygraph in a number of jurisdictions as typified by *People v. Hauser*,¹³⁴ although a subtle difference exists between the two.¹³⁵ So too, the case can be analogized to *State v. Towns*,¹³⁶ wherein the court admitted polygraph test results in order to avoid prejudice. In *Brummley* it appears that the court admitted the test results primarily because the defendant "opened the door" by introducing evidence of the manner in which the test was administered. As such, the issue of prejudice was quite possibly foremost in the judge's mind, and the defense counsel's failure to object totally irrelevant. In either view, the case is likely to be limited to its facts and will not have much effect on the standards for admissibility of PSE results in evidence.

Hearsay

The hearsay hurdle which the PSE shares with the polygraph results from the attempted introduction of out-of-court utterances. Lie detector advocates have long argued that the subject's responses are not introduced to prove the truth of the matter asserted; rather, these responses are revealed only in order to support the opinion of an expert concerning the truthfulness of the subject's statements. While these advocates often recognize that the subject's statements are hearsay, they contend they should be admitted, in light of the trustworthiness of the evidence.

Semantical arguments aside, however, the defendant's statements are offered to prove the truth of the matter asserted. Lie detector test results are not admitted merely to show that the defendant submitted to the test, but rather to show the truth or falsity of the statement elicited. As such, the examiner will be testifying on the actual question of guilt or innocence, which makes his testimony quite unlike that of any other expert.

¹³³ At the time this article went to press this case was on appeal to the Supreme Court of Louisiana.

¹³⁴ 184 Cal. 418, 193 P.2d 937 (Cal. App. 1948). See also text accompanying note 104 *supra*.

¹³⁵ The polygraph evidence in *Hauser* was admitted pursuant to a formal stipulation, in contrast to the informal agreement in *Brummley*.

¹³⁶ 35 Ohio App. 3d 237, 301 N.E.2d 700 (1973).

Moreover, the argument for admissibility based on the trustworthiness of the evidence is specious. While this argument may have some validity in the case of a polygraph, any characterization of PSE results as "trustworthy" ignores the adverse findings of the *Kubis Report* and the substantial doubt cast upon the validity and reliability of the PSE via the report.

Sixth Amendment

An attempt by the prosecution to have PSE test results admitted in a criminal trial would also conflict with the protection afforded a defendant by the sixth amendment right to confront the witnesses against him. The cases involving this right focus on two factors: first, the personal presence of the witness at the trial; and second, the opportunity to cross-examine such witness.¹³⁷ While the right is similar to the hearsay rule,¹³⁸ it is not subject to the rule's many exceptions.¹³⁹

It has been suggested that in the case of lie detection evidence, the right to confront an accuser and cross-examine him is met by the presence of the examiner in court. But, both the examiner *and* the PSE device are necessary to obtain deception results. The examiner's testimony is based on his interpretation of the strip charts, and it is impossible for the defendant to inquire of the machine itself how it "decided" to show different stress patterns. As such, the examiner's testimony is clearly hearsay.

As Judge Kaufman commented in *United States v. Stromberg*,¹⁴⁰ where polygraph results were at issue,

a machine cannot be cross-examined; its "testimony" as interpreted by an expert is, in that sense, the most glaring and blatant hearsay.¹⁴¹

In light of the fact that the sixth amendment has not yet been emasculated to the point where expert testimony based on hearsay is admissible, an attempt by the prosecution to introduce such evidence would be properly overruled.

The Integrity of the Judicial Process

An abiding concern has long existed over the admission of polygraph test results and its effect upon the traditional function of the jury. The basis for this concern stems from the belief that lie detection evidence goes right to the heart of the judicial process, *i.e.*, the

¹³⁷ MCCORMICK'S, *supra* note 87, § 252.

¹³⁸ *Id.*

¹³⁹ See *Stein v. New York*, 346 U.S. 156, 196 (1953).

¹⁴⁰ 179 F. Supp. 279 (S.D.N.Y. 1959).

¹⁴¹ *Id.* at 280.

determination of guilt or innocence.¹⁴² In response, lie detector advocates argue that such skepticism underestimates the jury's intelligence and that evidence of this nature should be admissible merely as an aid in the ultimate search for the truth.

Although compelling in their arguments, these advocates casually overlook both the nature of the criminal juror and the intrinsic predilection of the average American towards the infallibility of technology. Admittedly, the educational level of the American citizen is higher than when the quest for admission of such evidence began. But it does not necessarily follow that the average juror is so well educated.¹⁴³ Moreover, in an age of rampant technological growth, it should be no surprise that the individual who depends upon a machine to wake him, cook his meals, transport him and entertain him would likewise depend upon a machine to ascertain the truthfulness of a defendant's statements. Support for exclusion of such evidence on these grounds can be found in the newly-adopted federal rules of evidence, which recognize that certain evidence should not be admitted when its value is substantially outweighed by the danger of unfair prejudice or of misleading the jury.¹⁴⁴

Weight

In the event that the PSE survives the foregoing hurdles, a final issue will arise upon admission of its results — what weight should be accorded such evidence. The consensus appears to be that PSE evidence should not be deemed conclusive as to guilt. Michael Kradz, a PSE expert, has suggested that test results should be used "only as an investigative aid, not as conclusive evidence that the subject is guilty."¹⁴⁵ To deem it conclusive, he believes, would signal the end of the judicial system as we know it.¹⁴⁶

In a similar view, Colonel McQuiston, a PSE co-inventor, remarked in testimony before the House Subcommittee Hearings on the PSE, that test results should never be given conclusive weight unless it would establish the subject's innocence.¹⁴⁷ Admittedly, the

¹⁴² See R. FERGUSON & A. MILLER, *THE POLYGRAPH IN COURT* 49 (1973).

¹⁴³ See Beiser, *Are Juries Representative?*, 57 *JUDICATURE* 194, 197 (1974), wherein the author discusses the educational level of juries and notes the "automatic exclusion of many professionals from jury service."

¹⁴⁴ FED. R. EVID. 403.

¹⁴⁵ Telephone interview with Michael P. Kradz, January 16, 1975.

¹⁴⁶ *Id.*

¹⁴⁷ McQuiston Testimony, *supra* note 9, in *Moorehead Hearings* at 360.

latter suggestion renders the PSE somewhat more palatable to the defendant attempting to establish innocence, while simultaneously recognizing the imbalance of investigative resources existing between the state and the criminal defendant. Nevertheless, it is naive to expect the courts to accord the defendant such a benefit while denying the same to the State.

In the final analysis, it appears that the PSE in its quest for judicial recognition will encounter resistance at least as severe as that faced by other forms of lie detection over the past fifty years. Indeed, the lack of support by the experts in the field of lie detection, when coupled with the current conflict over the validity and reliability of the PSE system, suggest that at best considerable time will pass before the *Frye* standards are approachable. Moreover, should the PSE succeed in meeting these standards, questions of admission of hearsay, right to confrontation and integrity of the judicial process must still be faced.

Remedies Against Those Employing the PSE

The foregoing discussion, focusing on the efficacy of the PSE and the related issues surrounding its admissibility in evidence, necessarily ignores the more fundamental problem which the use of the PSE presents. It will often prove inconsequential that the results of the PSE test are inadmissible before a tribunal. For the use of the PSE by the private sector is substantial and will no doubt increase as the market potential is vigorously tapped.¹⁴⁸ Law enforcement agencies have already discovered the PSE's possibilities and undoubtedly other

¹⁴⁸ In a recent survey of 423 of their customers conducted by Dektor, the 46 responses received revealed that 23 firms conducting PSE services administered 6118 tests (as well as 18,237 "unspecified" tests), while 13 private employers reported they conducted 5285 tests with their employees. DAHM STUDY, *supra* note 7, in *Moorhead Hearings* at 257. Certainly these figures cannot be termed complete in that Dektor's survey queried only 8% of its customers. Yet these figures do indicate that PSE testing of employees is becoming increasingly pervasive throughout American industry. The rationale for this increase is reflected by concern expressed in the last few years over the dramatic rise in industrial theft. Estimates of the extent of such theft vary, but one source has stated that the figure is "more than four million dollars annually" and further notes that "authorities agree that 60-75 per cent of that total is chargeable to employee related thefts." Letter from Michael Green, President of National Polygraph Co., to CLEVELAND MAGAZINE, March 1975, at 9-10. Dektor believes that the PSE is an excellent tool to help employers combat that crime. According to Colonel McQuiston,

the overwhelming majority of such examinations serve the useful, perhaps essential purpose of establishing that the employee or prospective employee is honest and trustworthy and allow him and the employing agency to derive the benefits of that knowledge.

DEKTOR REPORT, *supra* note 12, at 13, in *Moorhead Hearings* at 236. Notwithstanding this opinion, such employee testing necessarily intrudes on an employee's innermost thoughts and emotions and could result in the loss of employment, not only from the company which tested the employee, but possibly future employment as well. Because the tests are taped, the results could be computerized and become part of the vast data banks which are currently being set up across the country, thus making PSE results available to the subject's future employers. See also, Sen. Ervin's Statement, *supra* note 81, in *Moor-*

governmental agencies will not be far behind.¹⁴⁹ This use of the PSE is not likely to be deterred by the prospects of its inadmissibility into evidence and thus the unsuspecting employee-citizen faces the undermining of the very fabric of traditional privacy concepts. Consequently, the employee-citizen will be forced to turn to the courts in an effort to vindicate himself on an individual basis and potentially to effectuate a deterrence to the indiscriminate use of the PSE.

¹⁴⁹ It is more difficult to establish the degree to which the PSE is used in government employment. Colonel Charles McQuiston's response to questions of the Moorhead Subcommittee concerning the purchase of the machines by the federal government reveals the following:

Serial No.	Date of Sale	Agency
1560(1)	June 22, 1974	NASA, Ames Research Center, Moffet Field, California
1572(1)	May 24, 1974	Patuxent Air Test Center, Patuxent, Maryland
1493	November 14, 1973	Aberdeen Proving Grounds, Aberdeen, Maryland
326(1)	July, 1973	Sharpe Army Depot, Lathrop, California
233(1)	April 19, 1973	VA Hospital, Danville, Illinois
63(1)	July 5, 1972	Drug Rehabilitation Center, U.S. Naval Air Station, Yukon, Florida
51(1)	May, 1972	USAFOSI, Washington, D.C.
31 & 32(2)	January 24, 1972	USAMERDCc CDC Ft. Belvoir, Va.
10(1)	May, 1972	Ft. George G. Meade Ft. Meade, Maryland
6(1)	—	Aberdeen Proving Grounds, Aberdeen, Maryland

Answers of Charles R. McQuiston to Moorhead Committee Question 10, in *Moorhead Hearings* at 363.

The Department of Defense has barred the use of the polygraph as a "screening or selection device as a condition of employment" for its employees, with the exception of those of the National Security Council. Statement of David O. Cooke, Deputy Assistant Secretary, Office of the Comptroller, Department of the Defense, in *Moorhead Hearings* at 421. Presumably the same restrictions would apply to use of the PSE. Mr. Cooke revealed that the Department of Defense had bought five PSE devices but no longer used them because of their lack of reliability and the devices had been either "dismantled or turned in for surplus disposal." *Id.* at 426.

Mr. Cooke further testified that the Army dismantled two of the PSEs it owned and transferred one to the Air Force. Also, he noted the Air Force Office of Special Investigations (AFOSI) bought one as well, but is transferring it to "a research and development office in Massachusetts."

The Department of Defense also compiled a list of how many PSEs were owned by which agency. This list showed the following:

Army	2 (dismantled in May 1974)
Air Force	1
NSA	2

Id. at 430.

It must be noted that this chart and Mr. Cooke's testimony do not coincide with Dektor's accounts of Department of Defense purchases, First, Patuxent Air Test Center bought a PSE a month before the Hearings. Secondly, the *Dektor Report* shows the Army bought four, the Air Force bought two, and the Navy one; which means that one Navy, one Air Force and one Army PSE remain to be accounted for. Query: indeed, if they are not reliable, where are they and for what are they being used?

Thus, this discussion will focus on two distinct approaches to the problem: first, whether the subject of a PSE test has a common law tort action available; and second, whether such individual has an action for violation of his constitutional rights pursuant to Chapter 42 of the United States Code, section 1983.¹⁵⁰

Common Law Tort for Invasion of Privacy

The theory suggesting the existence of a common law cause of action for violation of the right to privacy was initially presented in 1890 by Samuel Warren and Louis Brandeis.¹⁵¹ In their celebrated article they enunciated the classic definition of the common law right to privacy:

The common law secures to each individual the right of determining, ordinarily, to what extent his thoughts, sentiments, and emotions shall be communicated to others; . . . and even if he has chosen to give them expression, he generally retains the power to fix the limits of the publicity which shall be given them.¹⁵²

Since then the state of this law has been compared to a "haystack in a hurricane."¹⁵³ Nevertheless, the late Dean Prosser succeeded in bringing some semblance of order to this chaos through division of the form of the violation into four distinct categories: (1) public disclosure, (2) false light in the public eye, (3) appropriation, and (4) intrusion.¹⁵⁴ Though failing to receive universal acceptance, Prosser's work has been recognized for its intrinsic value by the courts.¹⁵⁵ Employing this categorical approach permits dismissal of the first three classifications as being without merit, and thus limits the discussion to the fourth.

¹⁵⁰ 42 U.S.C. § 1983 (1970). Commonly termed the Civil Rights Act of 1871, the statute reads as follows:

Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any State or Territory, subjects, or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress.

¹⁵¹ Warren & Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890).

¹⁵² *Id.* at 198.

¹⁵³ *Ettore v. Philco T.V. Broadcasting Co.*, 229 F.2d 481 (3d Cir.), *cert. denied*, 351 U.S. 926 (1956).

¹⁵⁴ Prosser, *Privacy*, 48 CALIF. L. REV. 383, 383-86 (1960).

¹⁵⁵ See RESTATEMENT (SECOND) OF TORTS § 652A. W. PROSSER, LAW OF TORTS §§ 803-14 (4th ed. 1971) [hereinafter cited as PROSSER]. *Contra*, Bloustein, *Privacy as an Aspect of Human Dignity: An Answer to Dean Prosser*, 39 N.Y.U.L. REV. 962 (1964).

Intrusion

An action for intrusion is premised on the proposition that one's solitude or personal affairs are inviolate. Consequently, plaintiff need merely demonstrate intrusion into a realm deemed private or personal, sufficient to offend a reasonable man.¹⁵⁶

There is little question that the PSE as heralded by the manufacturer is capable of plumbing the depths of human thoughts and emotions. These thoughts and emotions when unexpressed are perhaps the most private facet of an individual's character. As such, it is inconceivable that a court would deny a remedy to an aggrieved individual on the basis that the PSE does not intrude into a private realm.

Justice Brandeis, in his now-famous dissent in *Olmstead v. United States*,¹⁵⁷ considered this facet of human awareness important enough to warrant constitutional protection:

[The Makers of our Constitution] recognized the significance of man's spiritual nature, of his feelings and of his intellect. They knew that only a part of the pain, pleasure, and satisfaction of life are to be found in the material things. They sought to protect Americans in their beliefs, their thoughts, their emotions, and their sensations.¹⁵⁸

Although Justice Brandeis was speaking in the context of governmental intrusion via wiretapping, the analogy to the PSE is by no means superfluous. Indeed, the degree of intrusion rendered by wiretapping or for that matter, electronic surveillance in general, is even less than that resulting from the use of the PSE. For, while the victim of a wiretapping intrusion has at least intended to vocalize his thoughts or emotions, the fears or anxieties of a PSE subject can be detected without either his aid or knowledge.

In this light, it seems assured that the use of the PSE will be deemed offensive to the reasonable man in a number of situations. Foremost in this regard are those situations in which the PSE is used on private employees for periodic screening as contrasted to pre-employment testing or suspect testing in relation to a crime.

Remedy for Violation of Constitutional Rights

Where PSE testing is performed by a governmental entity, the possibility of a cause of action for violation of the subject's civil rights arises. The PSE is likely to be used or abused in two widely

¹⁵⁶ PROSSER, *supra* note 155, § 117.

¹⁵⁷ 277 U.S. 438 (1928).

¹⁵⁸ *Id.* at 478 (dissent).

diverse government functions, law enforcement¹⁵⁹ and public employment.¹⁶⁰ So too, this use or abuse will occur in either of two situations, overt or covert testing. This discussion will isolate specific constitutional amendments and analyze the potential for their violation through use of the PSE. Where significant, the analysis will incorporate the distinctions likely to result from either PSE use in the diverse government functions or its use in the two testing situations.

The Fourth Amendment

The possibilities for use inherent in the Psychological Stress Evaluator pose a serious threat to the fourth amendment guarantee against unreasonable search and seizure. The most serious aspects of this threat occur as a result of the PSE's potential for covert use. Dektor itself has recognized this potential and has even impliedly suggested the desirability of such use in certain situations,¹⁶¹ such as developing case leads in police investigation by telephone:

Normally, a covert PSE examination would be of an investigatory, stress evaluation type, such as an investigating officer might conduct by telephone on several suspects to question them about the case and record the conversation. The officer might determine, from a lack of stress, that the subject was not involved¹⁶²

To be sure, the possibilities for covert use of the PSE are endless, but an analysis of the case-lead approach advocated by Dektor should prove most fruitful to this discussion.

¹⁵⁹ Some indication of the extent of use by law enforcement agencies can be seen in the previously mentioned survey conducted by Dektor on a portion of its customers. The eight law enforcement agencies who responded to the questionnaire had conducted 4,027 tests. DAHM STUDY, *supra* note 7, at 2, in *Moorhead Hearings* at 256. These agencies apparently are local police departments as opposed to the Central Intelligence Agency or the Federal Bureau of Investigation. See Statement of Harold L. Brownman, Deputy Director for Management and Services, Central Intelligence Agency, in *Moorhead Hearings* at 643; Testimony by Bell P. Herndon, Supervisory Special Agent, Federal Bureau of Investigation, in *Moorhead Hearings* at 626.

¹⁶⁰ See discussion in note 148 *supra*.

¹⁶¹ If the purpose [of using the PSE] is to obtain a case lead and a direction for continuing investigation as in screening a large number of possible suspects, the examination might be overt or covert

Answers of Charles R. McQuiston to Moorhead Committee Question 2, in *Moorhead Hearings* at 361.

¹⁶² *Id.* at 362. It is implicit in this example that in most covert PSE testing situations no search warrants would be sought. Yet this discussion in no way suggests that a warrant based on probable cause authorizing PSE surveillance should be issued under any circumstances. While the Court in *Warden v. Hayden*, 387 U.S. 294 (1967), eliminated the distinction between instrumentalities and fruits of crime, and "mere evidence," the majority left open the question of whether there might be "items of evidential value whose very nature precludes them from being the object of a reasonable search and seizure." *Id.* at 303. It would appear that a PSE test should fall into the category of arguable exceptions, especially if one is wont to adopt the philosophy of Justice Douglas' dissent in *Warden* that the fourth amendment presumes a "zone that no police can enter — whether in 'hot pursuit' or armed with a meticulously proper warrant." *Id.* at 325.

The first question to be addressed is whether such covert use constitutes a search and seizure. In *United States v. Dionisio*,¹⁶³ the Supreme Court held there was no seizure where the defendant's voice was taped for the purposes of identification, since this is "a physical characteristic . . . constantly exposed to the public."¹⁶⁴ Clearly this case can and should be distinguished from the covert testing situation under discussion. In contrast to the normal taping situation, PSE analysis lays bare the unexpressed emotions of the subject. Consequently, the purpose for which taping of the voice is conducted and the extent to which such taping intrudes on the privacy of the subject is far different in the PSE situation. Moreover, in the scenario upon which this discussion is based, the use of wiretapping is implicit. Nor does it require much imagination to envision other situations in which surreptitious use of the PSE could be effectuated by "bugging." And it can be inferred from past decisions that electronic surveillance or wiretapping without prior judicial authorization is per se a search and seizure.¹⁶⁵

Once a search and seizure has been established, it must be demonstrated that the action taken was unreasonable. In *Katz v. United States*,¹⁶⁶ the leading case in this area, the defendant was convicted of using the telephone to transmit gambling information in violation of a federal statute. Evidence introduced at trial included telephone conversations of the defendant which had been overheard by FBI agents who had attached an electronic recording device to the public phone Katz had used to make his calls. In holding that such activity on the part of the government constituted an illegal search and seizure within the meaning of the fourth amendment, the Court formulated a test: whether the subject of the government's activities justifiably relied upon the privacy which was invaded.¹⁶⁷ Thus the important question is whether the *Katz* test is met; *i.e.*, would the government's covert use of the PSE violate the privacy upon which the subject justifiably relied.

In the situation suggested by Dektor, where a police investigator questions a subject via telephone, it seems likely that the subject would be relying on his privacy. While concededly he might not expect his answers to be private, he would certainly expect his emotional state to remain so.

¹⁶³ 410 U.S. 1 (1973).

¹⁶⁴ *Id.* at 14. See also *United States v. D'Amato*, 340 F. Supp. 1020 (E.D. Pa. 1972).

¹⁶⁵ See *Katz v. United States*, 389 U.S. 347 (1967). A possible exception is found in national security cases. See, *e.g.*, *Alderman v. United States*, 394 U.S. 165 (1969).

¹⁶⁶ 389 U.S. 347 (1967). For an excellent discussion of *Katz*, see Note, *Katz and the Fourth Amendment*, 23 CLEVE. ST. L. REV. 63 (1973).

¹⁶⁷ 389 U.S. at 353.

Moreover, this expectation of privacy appears to be reasonable under the circumstances. Although the courts in applying the *Katz* test have uniformly found certain situations where a claim of reasonable expectation will be rejected, such as jails, open fields and yards,¹⁶⁸ it is questionable whether the same results would obtain if the conversation were taped and measured on a PSE to detect the suspect's psychological stress. In the circumstance under discussion, where measurement is made from a phone conversation, the external environment is such that the subject would be entirely reasonable in expecting that his unexpressed thoughts would remain private.

Nor should the results differ if the subject had engaged in conversation with a party who had consented to its taping and subsequent PSE analysis. While the Supreme Court has noted that there can be no reasonable expectation of privacy where one party to a conversation gives his consent to eavesdropping,¹⁶⁹ the use of the PSE in such a situation presents a distinction sufficient to challenge the court's rationale.

Admittedly a consenting party may permit an eavesdrop to a conversation and thus present the government with what is in effect the contents of the conversation. But what he has given them is predictably no more than what he had, or more pointedly what he heard. The introduction of the PSE into this scenario alters the outcome. For then he presents the government with that which he never had — since it was never given to him — a record of the speaker's hidden emotions. In view of the fact that the speaker never meant to impart such a record, it would be surprising indeed if his reliance on the privacy of this aspect of the conversation was deemed unreasonable.

Another issue of major importance in the covert use situation concerns the treatment of a confession induced by the utilization of PSE results. Since covert testing and analysis could properly be classified as a search, an interrogation procedure which confronts the accused with the results of the PSE is analogous to the illegal intrusion which resulted in a confession in *Wong Sun v. United States*.¹⁷⁰ Unquestionably, a confession induced by illegally seized evidence is

¹⁶⁸ *United States v. Hitchcock*, 467 F.2d 1107 (9th Cir. 1972), *cert. denied*, 410 U.S. 916 (1973) (documents hidden in jail cell); *United States v. Pruitt*, 464 F.2d 494 (9th Cir. 1972) (boxes hidden in a clump of trees in an open field); *People v. Bradley*, 1 Cal. 3d 80, 81 Cal. Rptr. 457, 460 P.2d 129 (1969) (marijuana growing under a fig tree near landlord's back door and tenant's door); and other cases cited in *supra* note 166, at 68 nn. 46, 47, 48.

¹⁶⁹ *United States v. White*, 401 U.S. 745 (1971).

¹⁷⁰ 371 U.S. 471 (1963).

inadmissible in the absence of a showing that the confession has been obtained by "means sufficiently distinguishable to be purged of the primary taint."¹⁷¹

The Fifth Amendment

The overt administration of a PSE examination raises issues resting on both due process considerations and the privilege against self-incrimination.¹⁷² The due process issue stems from the question of whether the very use of the PSE is inherently coercive in a criminal interrogation setting, rendering any confession so derived involuntary and consequently inadmissible. The District of Columbia Circuit Court of Appeals, when faced with the analogous polygraph testing situation in *United States v. Tyler*,¹⁷³ spurned arguments for inherent coerciveness and held that, if otherwise voluntary, a confession derived from a polygraph test would not be excluded. In light of the similarity between overt PSE testing and polygraph testing, it is unlikely that the treatment accorded the PSE will differ. Indeed, the decision in *State v. Brumley*,¹⁷⁴ wherein the court admitted a confession made after adverse results of a PSE test were communicated to the defendant, bears out this reasoning.

The privilege against self-incrimination raises the question of whether a criminal defendant may be compelled by law enforcement authorities to take a PSE test. In *Schmerber v. California*,¹⁷⁵ the Supreme Court noted the adverse impact on the privilege created by polygraph testing:

To compel a person to submit to testing in which an effort will be made to determine his guilt or innocence on the basis of physiological responses, whether willed or not, is to evoke the spirit and history of the Fifth Amendment.¹⁷⁶

¹⁷¹ *Id.* at 488. Exclusion of a "tainted" confession should not be contingent upon proof by the defendant of coercive or oppressive circumstances surrounding the confession. *People v. Johnson*, 70 Cal. 2d 541, 75 Cal. Rptr. 401, 450 P.2d 865 (1969). *Contra, e.g.*, *State v. Traub*, 181 Conn. 246, 196 A.2d 755 (1963), *cert. denied*, 377 U.S. 960 (1964).

¹⁷² U.S. CONST. amend. V.

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

¹⁷⁴ Docket No. 10,199 (5th Jud. Dist. Ct. Parish of West Carroll, La., 1974). *See* text accompanying note 132 *supra*.

¹⁷⁵ 384 U.S. 757 (1966). Invocation of the fifth amendment privilege against self-incrimination is dependent upon the compelled activity's being testimonial in nature. As the *Schmerber* Court explained, "The privilege protects an accused only from being compelled to testify against himself, or otherwise provide the State with evidence of a testimonial or communicative nature . . ." 384 U.S. at 761. Clearly, not only would the PSE subject's verbal responses be protected by the privilege but, due to their communicative nature, his physiological responses would be as well.

This dicta would seem to indicate that a defendant may not be subject to a PSE test against his will. A recent Supreme Court ruling, however, raises the possibility that illicit government practices may well undercut the fifth amendment privilege.¹⁷⁷

Right to Privacy

The great importance of the constitutional right to privacy stems from its application to governmental action outside the criminal arena. This is particularly crucial to the government employee confronted with employment screening via the PSE.¹⁷⁸

The existence of the constitutional right to privacy under the fourteenth amendment was first accorded judicial recognition in *Griswold v. Connecticut*,¹⁷⁹ wherein the Supreme Court per Justice Douglas found such a right in the penumbras of the Bill of Rights.¹⁸⁰ Eight years later, in *Roe v. Wade*,¹⁸¹ Justice Blackmun noted that roots of the right could be traced to the first amendment; the fourth and fifth amendments; in the penumbras of the Bill of Rights; in the ninth amendment; or in the concept of ordered liberty guaranteed by the first section of the fourteenth amendment.¹⁸² He observed, however, that "only personal rights that can be deemed 'fundamental' or 'implicit in the concept of ordered liberty,' . . . are included in this guarantee of personal privacy."¹⁸³

In applying the "ordered liberty" test in the context of a PSE examination, it is necessary to consider whether an individual's right to control the extent and form of his communication is within the "zones of privacy" to which Justice Douglas referred in *Griswold*.¹⁸⁴ One commentator has suggested that "sensual and emotional impressions and expression" must be considered within the scope of these zones.¹⁸⁵ At the very minimum an individual's thoughts and emotions must be protected by what Justice Brandeis termed the "right to be let alone."¹⁸⁶

¹⁷⁷ See *United States v. Dionisio*, 410 U.S. 1 (1973), where the Supreme Court held that a defendant could be compelled to provide the authorities with a voice exemplar. Presumably the compelled voice exemplar could then be subjected to PSE analysis as well, without the defendant's consent.

¹⁷⁸ See note 149 *supra*.

¹⁷⁹ 381 U.S. 479 (1965). Various justices of the Supreme Court had previously given recognition to the value of the right of privacy. See *Silverman v. United States*, 365 U.S. 505 (1961) (Douglas, J. concurring); *Olmstead v. United States*, 277 U.S. 438 (1928) (Brandeis, J. dissenting).

¹⁸⁰ 381 U.S. at 484 (citations omitted).

¹⁸¹ 410 U.S. 113 (1973).

¹⁸² *Id.* at 152.

¹⁸³ *Id.*

¹⁸⁴ 381 U.S. at 484.

¹⁸⁵ A. MILLER, *THE ASSAULT OF PRIVACY* 178 (1971), citing *Batt, Law and the Bedroom*, *SATURDAY REV.*, Aug. 3, 1968, at 45 [hereinafter cited as MILLER].

¹⁸⁶ *Olmstead v. United States*, 277 U.S. 438, 478 (1928) (Brandeis, J. dissenting).

This same conclusion is suggested from the philosophical approach taken by Professor Alan Westin. In addressing the analogous problem presented by the polygraph, he delineated three issues:

First is the attempt to penetrate the "inner domain" of individual belief, tendency, and inclination through the questions of such topics used so often in polygraph sessions. The American Constitution sets up a basic distinction between acts and beliefs, and the style of polygraph screening . . . violates the injunction against inquiry into belief by government. Second is the interference with the individual's sense of personal autonomy and reserve created by machine sensing of the individual's emotional responses to personal inquiries in a formal, public proceeding. If individuals confess because they feel they have lost their basic autonomy, we may detect some personnel risks, but we will leave citizens stripped of what made them feel like independent persons in a free society. Third is the increased psychological power over individuals that authorities acquire when they apply the full panoply of large black box, moving stylus, wires, two-way mirrors, formal interrogation, and so forth, to a citizen seeking to work for a corporation or a government agency in a free society.¹⁸⁷

First Amendment

It has been suggested that such government activity as wiretapping and electronic surveillance constitute a violation of the first amendment right of freedom of speech,¹⁸⁸ the rationale being that "expression becomes less free and is directly curtailed by the fear of such surveillance."¹⁸⁹ This theory could be applied to the use of the Psychological Stress Evaluator as well. Indeed, since the PSE purports to test the truth of the spoken word, the negative impact of such "psychological surveillance"¹⁹⁰ on freedom of speech could be overwhelming. If an individual's every word could be tested for veracity, it is inevitable that fear of reprisal will inhibit his communications. To be sure, Professor Alan Westin has noted that, "[w]ritings by leading social scientists have made it clear that observation by listening or watching which is known to the subject neces-

¹⁸⁷ A. WESTIN, *PRIVACY AND FREEDOM* 238-39 (1967) [hereinafter cited as WESTIN].

¹⁸⁸ See King, *Wiretapping and Electronic Surveillance: A Neglected Constitutional Consideration*, 66 DICKINSON L. REV. 17 (1961). See also 119 CONG. REC. 23,491 (daily ed. Dec. 20, 1973) (remarks of Senator Ervin).

¹⁸⁹ King, *supra* note 188, at 25.

¹⁹⁰ Westin, *Science, Privacy and Freedom: Issues and Proposals for the 1970's*, 66 COLUM.

sarily exercises a restrictive influence over him.”¹⁹¹ Analogy to the PSE indicates that its use will operate to create a “chilling effect” on free speech.

Moreover, the political implications of the PSE can only be grimly imagined. It is foreseeable that the use of the PSE will one day be extended beyond the mere testing of factual statements to testing of attitudes and even loyalties. And with such an extension would come the trampling of basic first amendment rights of freedom of speech and association.¹⁹²

In view of the traditional treatment of governmental surveillance as a fourth amendment issue, adoption of a first amendment analysis of PSE use will require a fundamental change in judicial attitude. The greater protections afforded by a first amendment approach manifestly warrant this tack. For if PSE testing is shown to exert a “chilling effect” on freedom of speech, the courts will have little choice but to prohibit such activity, rather than merely limiting it via fourth amendment proscriptions.¹⁹³

Limitations on Remedies

Notwithstanding the fact that potential remedies do exist for the use or abuse of the PSE, limitations of a legal and practical nature will effectively prevent a PSE subject from utilizing these remedies.

Disclosure

The aforementioned approaches to effectuating a legal remedy will be limited both in the covert situation by the difficulty of establishing

¹⁹¹ *Id.* at 1045.

¹⁹² For an example of the potential for abuse which such a situation could create, consider the address of President Harry Truman to the National Civil Service League, as quoted in the *New York Times*, May 3, 1952, at 22, col. 4.

The loyalty program was designed to protect innocent employees as well as the Government. When I set it up, I intended it to expose the guilty and at the same time to safeguard the rights and the reputations of those who were innocent. But I have become increasingly concerned in recent months by attempts to use the loyalty program as a club with which to beat Government employes over the head.

Political gangsters are attempting to pervert the program into an instrument of intimidation and blackmail, to coerce or destroy any who dare oppose them. These men and those who abet them have besmirched the reputations of decent, loyal public servants. They have not hesitated to lie, under cover of Congressional immunity, of course, and to repeat the lies again and again.

This is a matter for great concern. These tactics contain the seeds of tyranny. Can we be sure that people who employ such tactics are really loyal to our form of Government, with its Bill of Rights and its tradition of individual liberty? The fact is that they are breaking these things down. They are undermining the foundation stones of our Constitution. I believe such men betray our country and all it stands for. I believe they are as grave a menace as the Communists.

¹⁹³ For example, where warrants have been obtained or rights of the subject have been waived. Published by EngagedScholarship@CSU, 1975

that a PSE examination did in fact take place, and in the overt situation by the difficulty likely to be encountered in obtaining the results of a PSE examination.

Clearly an unsuspecting subject will not institute a cause of action. Moreover, the scenario suggested by Dektor¹⁹⁴ indicates the ease with which a PSE examination can be conducted without the subject's cognizance and hence without his ever knowing that his rights have been violated. This situation is further exacerbated by the fact that PSE results are likely to be employed derivatively to furnish a lead to other incriminating evidence.

In addition, while Rule 16 of the Federal Rules of Criminal Procedure provides a defendant in a federal court with the right of discovery of scientific test and experiment results, his lack of knowledge concerning the administration of the PSE test substantially impairs the value of this tool.¹⁹⁵ And even if a request for test results were routinely made, the likelihood exists that such information would not be forthcoming.¹⁹⁶

With regard to the second disclosure limitation, the difficulty in obtaining the results of a polygraph test has been cited as one of the major objections to its use.¹⁹⁷ In all likelihood, this same difficulty will be experienced by a PSE subject. The only possible circumven-

¹⁹⁴ See text accompanying note 162 *supra*.

¹⁹⁵ One reason for the limited value is its sole application to federal criminal actions, while the situations will occur with greater frequency in a state proceeding. Less than a majority of the states have promulgated criminal discovery rules. For a partial list of those jurisdictions, see Nakell, *Criminal Discovery for the Defense and Prosecution — The Developing Constitutional Considerations*, 50 N.C.L. REV. 437, 439 n.15 (1972). Since that time, Arkansas and New York have enacted such statutes. See ARK. STAT. ANN. §§ 43-2011.1-4; N.Y. CRIM. PROC. LAW §§ 240-10-40 (McKinney Supp. 1971). The same problem would arise in a civil action; for, although the information would be subject to civil discovery rules, the potential plaintiff would again be unaware that the surveillance took place.

¹⁹⁶ The case of *United States v. Ellsberg*, No. 8354 (C.D. Cal. 1973) (charges dismissed, Dec. 30, 1973), is a good example of a situation where the government failed to disclose illegal wiretapping. Cf. *Ellsberg v. Mitchell*, 353 F. Supp. 515 (D.D.C. 1973) (a companion civil case).

¹⁹⁷ Former Sen. Sam Ervin noted the existence of the problem of availability of test results in his statement submitted for the record of the Moorhead Hearings:

The third area of concern to me is the dissemination and availability of the testing results. There is every likelihood that a record of the employee's responses may find its way into the personnel files of the company or agency and be transmitted as "reference material" when the worker leaves, despite assurances to the contrary. In fact, one individual who contacted the Subcommittee on Constitutional Rights told of his frustrating efforts to learn the contents of a polygraph test he had taken for employment with one law enforcement agency after learning the other law enforcement agencies he applied with had also seen the results. These agencies did not require such tests for employment. He was told that the results of his test were confidential!

Moorhead Hearings at 788.

tion of this problem appears to lie with the Fair Credit Reporting Act.¹⁹⁸ If it can be demonstrated that a lie detection agency comes within the purview of this Act, disclosure of PSE test results will be required.¹⁹⁹

State Action

The requirement of state action in a suit brought under the fourteenth amendment places a severe limitation on the availability of remedies.²⁰⁰ Thus, an employee in the private sector is left only with an action sounding in tort, which in itself is subject to pernicious limitation.²⁰¹

The state action problem received extensive treatment in 1971 by Professor Herman.²⁰² The thrust of his discussion centered on the fact that the fourteenth amendment could be extended to private corporations by virtue of the overwhelming degree of state involvement in their affairs.²⁰³ While noting that this argument has gained some judicial support in recent years,²⁰⁴ Professor Herman recognized that such an approach would require "significant extension of the scope of state action."²⁰⁵ This latter comment is nearly prophetic.

In the four years since Professor Herman's treatment, it has become increasingly apparent that no such judicial extension of the concept will occur. The two major decisions which addressed the issue in the intervening years, *Moose Lodge No. 107 v. Irvis*,²⁰⁶ and

¹⁹⁸ 15 U.S.C. § 1681 (1970).

¹⁹⁹ 15 U.S.C. § 1681g (1970).

(a) Every consumer reporting agency shall . . . disclose to the consumer:
(1) the nature and substance of all information (except medical information) in its files on the consumer at the time of the request.

John Spafford, President of Assoc. Credit Bureaus, Inc. of Houston, Texas, has observed that the F.C.R.A. could be said to apply to investigative agencies. See Spafford, *Consumer Credit: Giving Creditors Their Due*, 11 TRIAL 35, 50 (Jan.-Feb., 1975). This view is supported by the broad statutory definition of "consumer reporting agency" by the F.C.R.A. 15 U.S.C. § 1681a (f) (1970).

²⁰⁰ U.S. CONST. amend. XIV, § 1 states in part, "nor shall any State deprive any person of life, liberty, or property without due process of law . . ."

²⁰¹ Probably the most far-reaching limitation on remedial actions is that resulting from consent by the PSE subject. See text accompanying notes 214-221 *infra*.

²⁰² Herman, *Privacy, the Prospective Employee and Employment Testing: The Need to Restrict Polygraph and Personality Testing*, 47 WASH. L. REV. 73, 140-49 (1971).

²⁰³ Prof. Herman considered the following to be important: private corporations are statutorily created; the states are already involved in "private activities" via statutory and administrative law which seeks to regulate private corporate activity; state action in failing to act to alleviate the unequal bargaining power of the employee vis-a-vis the corporation can arguably constitute violation of the fourteenth amendment just as if the state had acted affirmatively to create the same situation; and there is substantial government assistance to private corporations in the form of subsidies and grants. *Id.* at 148-49.

²⁰⁴ See *Siedenburg v. McSorley's Old Ale House, Inc.*, 317 F. Supp. 593 (S.D.N.Y. 1970).

²⁰⁵ Herman, *supra* note 202, at 149.

²⁰⁶ 407 U.S. 163 (1972).

Jackson v. Metropolitan Edison Co.,²⁰⁷ reveal instead a step backward in the application of the fourteenth amendment to the private sector.

Moose Lodge involved a black plaintiff who, as a guest of a member of the lodge, a private club, was refused service of food or drink because of his race. Because the club had a liquor license, the plaintiff argued that the state regulatory scheme enforced by the state liquor control board established the requisite state action to show a violation of the fourteenth amendment. The Court, per Justice Rehnquist, stated that "the State must have significantly involved itself with invidious discrimination in order for the action to fall within the ambit of constitutional prohibition,"²⁰⁸ and held that the regulation of liquor in such a private club "did not sufficiently implicate the State in the discriminatory guest policies of Moose Lodge" so as to constitute state action.²⁰⁹

Jackson v. Metropolitan Edison Co.,²¹⁰ a 1974 decision, clearly illustrates that state action will not be found in the private sector even where the regulation is far more extensive. Metropolitan Edison, though a privately owned and operated corporation, held a certificate of public convenience issued by the Pennsylvania Public Utilities Commission which made the utility subject to "extensive regulation" by the Commission.²¹¹ By virtue of proof of such extensive regulation, the plaintiff sought to come within the purview of the fourteenth amendment. Justice Rehnquist again spoke for the majority and enunciated the test — "whether there is sufficiently close nexus between the State and the challenged action of the regulated entity so that the action of the latter may be fairly treated as that of the State itself."²¹² He concluded that the test had not been met.²¹³

It would appear that Professor Herman's thesis that private corporations could be subject to the prohibitions of the fourteenth amendment has been dealt a death blow by these two cases. Their

²⁰⁷ _____ U.S. _____, 95 S. Ct. 449 (1974).

²⁰⁸ 407 U.S. at 173.

²⁰⁹ *Id.* at 177.

²¹⁰ _____ U.S. _____, 95 S. Ct. 449 (1974).

²¹¹ *Id.* at _____, 95 S. Ct. at 457.

The Public Utilities Commission is given extensive control over utility rates, and over the character and quality of utility services and facilities; it is given broad power to receive and investigate complaints, and to regulate and supervise the activities, rules and contractual undertakings of utilities.

Id. at _____, 95 S. Ct. at 459 n.5 (dissent) (citations omitted).

²¹² *Id.* at _____, 95 S. Ct. at 453.

²¹³ *Id.* at _____, 95 S. Ct. at 457.

significance insofar as the PSE is concerned is that the concept of state action clearly remains a stringent limitation on effectuating a PSE subject's constitutional rights.

Consent

The major barrier to successful litigation by a PSE subject is that, in many cases, the subject has consented to being given the PSE examination.²¹⁴ Thus, the defense of consent can be asserted to defeat both allegations of violation of the subject's fourth and fifth amendment rights and his right to privacy as well as a tort action for invasion of privacy.

The essence of the objection to this defense is seen in the statement of a well-known lie detection expert, John Reid, "[N]o one who comes here has to take the test. They sign a voluntary statement."²¹⁵ Indeed, one must inquire just how voluntary such a transaction really is. Consider:

(1) The *American Civil Liberties Report* to the House Subcommittee Hearings²¹⁶ noted that the Moss Committee²¹⁷ emphasized that "as long as notations are made in any official file on an individual that he refused to take a polygraph test, the test is in no sense voluntary."²¹⁸

(2) Arthur Miller has charged that to characterize as voluntary the giving of such information to a person in authority or "to someone who dangles an attractive carrot before an individual's eyes"²¹⁹ is to "ignore reality."²²⁰

(3) Professor Westin, in discussing the issues of "voluntariness" and "consent," has branded such terms "meaningless" in the context of the use of lie detection in private employment:

When applicants for corporate . . . service, normally well qualified, well recommended, and with no tract of criminality to raise questions, must submit to polygraphing or forsake these key sources of employment in American economic life, then consent is far from free. Or if when once hired, an employee is required to consent to periodic preventive testing as a condition of continued employment, the employee's freedom of choice is substantially narrowed.²²¹

²¹⁴ It is general policy for employees to sign a consent form before taking an overt PSE test.

²¹⁵ Franklin, *Lie Detectors' Use by Industry Rises: Rights Peril Feared*, N.Y. Times, Nov. 22, 1971, at 45 col. 4.

²¹⁶ ACLU REPORTS, *supra* note 8, in *Moorhead Hearings* at 7.

²¹⁷ *Hearings on the Use of Polygraphs as "Lie Detectors" by the Federal Government before a Subcomm. of the House Comm. on Government Operations*, 88th Cong., 2d Sess., and 89th Cong., 1st Sess. (1964-65) (Hon. John E. Moss, Chairman).

²¹⁸ ACLU REPORTS, *supra* note 8, in *Moorhead Hearings* at 45.

²¹⁹ MILLER, *supra* note 185, at 185.

²²⁰ *Id.* at 186.

²²¹ WESTIN, *supra* note 187, at 239-40.

It becomes abundantly clear that the courts' continued protection of the employer-examiner results from sheer sophistry and comes at an enormous price. Consequently, in view of the frightening potential of the PSE, a look to the legislative arena is in order.

Legislative Action

The legislative branch has two dissimilar approaches available to effectuate the rights of individuals who have or may be subjected to a PSE examination — regulation of the industry or outright prohibition of its sale.

Regulation pertaining to the particular use of lie detectors has been undertaken by thirteen states.²²² These statutes generally prohibit the use of polygraph examinations in private employment. At the federal level, former Senator Ervin proposed several bills which would have made it unlawful to require pre-employment polygraph testing or to discharge, discipline or deny promotion to an individual in the executive departments who refuses to take a polygraph test.²²³ Moreover, the latter of these bills, Senate Bill 2836 would prohibit such testing by any business involved in interstate commerce.²²⁴ Law enforcement agencies and state and local governments were excluded from these provisions. It would not require much effort on the part of the legislative bodies involved to amend these statutes to extend their coverage to include PSE examinations.

Yet, if regulation by licensing or proscribed use is the avenue chosen by the legislature, it must be recognized that none of these statutes, proposed or enacted, goes far enough to effectively protect the subject's rights. Use of the PSE by law enforcement agencies, as well as state and local governments, must also specifically regulated; and outright prohibition of covert testing by PSE is necessary. Further, where use of the PSE is permitted, such use must be stringently regulated. In the overt testing situation, statutes should require the presence of an attorney during the test so that meaningful consent to the test will be given. Moreover, it should be provided that only those people who are actual suspects in specific criminal acts can be tested. "Fishing expeditions" by means of PSE examinations in criminal investigations should be flatly prohibited.

²²² ALASKA STAT. § 23.10.037 (1962); CAL. LABOR CODE § 432.2 (West 1971); CONN. GEN. STAT. ANN. § 31-51g (1958); DEL. CODE ANN. tit. 19, § 704 (1974); HAWAII REV. STAT. §§ 378-21, 22 (1968); MD. ANN. CODE art. 100, § 95 (Supp. 1974); MASS. GEN. LAWS ANN. ch. 149, § 19B (Supp. 1975); MINN. STAT. ANN. § 181.75 (Cum. Supp. 1975); N.J. STAT. ANN. § 2a: 170-90.1 (1971); ORE. REV. STAT. § 659.225 (1974); PA. STAT. ANN. tit. 18, § 7321 (1973); R.I. GEN. LAWS ANN. § 28-6-1 (1969); WASH. REV. CODE § 49.44.120 (Supp. 1974).

²²³ S. Bill 2156 (1971); S. Bill 2936 (1973). Both bills died in committee. See 119 CONG. REC. 52,3491 (daily ed. Dec. 20, 1973).

²²⁴ 119 CONG. REC. 52,3491 (daily ed. Dec. 20, 1973) (remarks of Sen. Ervin).

Regulation

Two avenues of regulation should be considered; either the PSE examiner could be licensed by the state or federal government or the PSE could be limited to particular use by state or federal statutes. The licensing approach is that favored by Dektor itself.²²⁵ Already the polygraph is regulated by licensing statutes in thirteen states.²²⁶ It would be a relatively easy matter to amend those existing state statutes to include provisions for licensing of the PSE examiner. Florida regulates the PSE by licensing in its administrative code,²²⁷ and recently a proposed statute regulating only PSE licensing has been introduced into the Florida legislature.²²⁸ Virginia is also contemplating an amendment to its existing Polygraph Examiner's Law to include PSE examiners.²²⁹

Prohibition

It well may be that, in view of the questionable efficacy of the Psychological Stress Evaluator and the serious threat that its use poses to individual rights, the only legitimate course of action open to resolve this problem is the actual prohibition on the sale of the PSE. Even the inventor of the device, Colonel Charles McQuiston, has acknowledged that the "PSE represents a threat in the wrong hands."²³⁰ Moreover, it has been suggested that the regulation of polygraph use has been ineffective with respect to employment testing.²³¹ There is little likelihood of greater success with the PSE, while the possibility for total failure of any such regulatory scheme is exacerbated by its intrinsic potential for covert use.

²²⁵ McQuiston Testimony, *supra* note 9, in *Moorhead Hearings* at 355.

²²⁶ See ARK. STAT. ANN. §§ 71-2201 to -2225 (Cum. Supp. 1973); FLA. STAT. ANN. §§ 493.40-56 (Cum. Supp. 1975-76); GA. CODE ANN. §§ 84-5001 to -5016 (1970), *as amended*, (Cum. Supp. 1974); ILL. ANN. STAT. ch. 38 §§ 202-1 to -30 (Smith Hurd 1973); KY. REV. STAT. ANN. §§ 329-010-.990 (1970); MISS. CODE ANN. §§ 73-29-1 to -47 (1972); NEV. REV. STAT. §§ 648.005-.210 (1973) N.M. STAT. ANN. §§ 67-31A-1 to -11 (1953); N.C. GEN. STAT. §§ 66-49-1-.8 (1965), *as amended*, (Cum. Supp. 1974); N.D. CENT. CODE §§ 43-31-01 to -17 (Supp. 1973); OKLA. STAT. ANN. tit. 59 §§ 1451-1476 (Supp. 1974-75); TEX. REV. CIV. STAT. art. 4413 (29cc) (Supp. 1974-75); VA. CODE ANN. §§ 54-729.01 to -.018 (1974).

²²⁷ FLA. ADM. CODE 1c-4.01-.05 (1972).

²²⁸ Proposed S. Bill 571.

²²⁹ *Moorhead Hearings* at 369 (Exhibit C).

²³⁰ McQuiston Testimony, *supra* note 9, in *Moorhead Hearings* at 355.

²³¹ Lykken, *The Right Way to Use a Lie Detector*, PSYCHOLOGY TODAY, March 1975, at 56.

Two years ago I testified before the Minnesota Legislature in support of a bill that would prohibit employers from requiring or even requesting employees or prospective employees to take polygraph examinations. The bill became law, but the law is ineffective. Employers continue to screen applicants because the present law is difficult to enforce. The most effective course of action might be for legislatures to proscribe the sale of lie-detector services for employee screening. It is much easier to police a few sellers than the myriad offending employers.

Summary

The Psychological Stress Evaluator is in its nascent stage of influence in both the private and public sectors of American society. This device operates on the theory that differential stress in the voice produced by vibrations of the vocal cords can be measured so as to detect deception. This note has sought to explain the functioning of the PSE and to denominate the issues which its use will thrust upon the American legal system.

Empirical studies reveal vast discrepancies in reported validity, suggesting that the resolution of this issue must await further independent study. Moreover, the issue of reliability has yet to be addressed. Insofar as acceptability by the scientific community is dependent on the positive resolution of these two issues, PSE examination results will not be readily admitted as scientific evidence by either state or federal courts. Beyond the mere question of its efficacy as scientific evidence, the courts will be forced to confront other evidentiary issues which will jeopardize the quest for admission of PSE results.

Implicit in the utilization of the PSE for detection of deception is its extraordinary potential for abuse. Unfortunately, traditional tort remedies will prove ineffective in combating such abuse due to the limitations imposed by the legal system itself.

But the major question which the PSE presents to the legal system is neither its validity, its admissibility nor the lack of actionable remedies. Rather, further inquiry must be made into the basic question of whether the use of even the most valid and scientifically accepted PSE has any place in American society. While all Americans deplore the increase in industrial crime, at the same time the American worker cannot be said to have "surrendered his basic rights and liberties as a citizen by entering the job market."²² Clearly the public is entitled to protection from the PSE before its use becomes so commonplace that it pervades the American way of life; for, by then, it will be virtually impossible to either control or eradicate its pernicious influence on the individual in society.

Deborah Lewis Hiller