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## COMMENT

### The Polygraph: Perceiving or Deceiving Us?

#### INTRODUCTION

The word "polygraph" generally elicits one or two familiar responses from lawyers and legal commentators: "the polygraph detects lies" or "polygraph evidence is inadmissible in a court of law." The latter rule is concise, easily remembered, and inaccurate; the former is simply false. Despite the popular misunderstanding of the polygraph and misgivings about its use in modern legal practice, the polygraph has persevered much in the manner of the truth it seeks. McCormick has spoken to survival of the polygraph in the face of constant critical analysis: "In the numerous opinions and the large commentary, the principles underlying the test, the qualifications and procedures of the polygraph operator, and the considerable statistics developed concerning the technique, have been subjected to a more searching and critical analysis than that accorded to any other form of [experimental or scientific] evidence."<sup>1</sup> Still, the polygraph remains a controversial subject in books,<sup>2</sup> law reviews,<sup>3</sup> newspapers,<sup>4</sup> and courtrooms.<sup>5</sup> With powerful advocates on both sides of the issue, the debate over its use has not subsided. This article will focus upon the constituent elements of the whole: theory, technique, and practical application; the general rule of courtroom inadmissibility; the problems of examiners and accuracy; and the cases for and against admitting polygraph evidence.

Polygraph "evidence" consists of allowing the examiner to testify presenting the graphs and explaining his conclusion as to whether the subject believed he was telling the truth or was consciously making an effort to deceive in his answers to relevant test questions. Although the various legal grounds cited for excluding the evidence include hearsay, fifth amendment, expert testimony, scientific evidence, competency, and others, the most accurate ground for exclusion is legal relevancy. McCormick notes that "exclusion seems to rest more upon a judicial

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1. C. MCCORMICK, MCCORMICK ON EVIDENCE § 207, at 504 (2d ed. 1972).

2. *E.g.*, J. REID & F. INBAU, TRUTH AND DECEPTION—THE POLYGRAPH ("LIE-DETECTOR") TECHNIQUE 2, n.2 (2d ed. 1977).

3. *E.g.*, Skolnick, *Scientific Theory and Scientific Evidence: An Analysis of Lie-Detection*, 70 YALE L.J. 694 (1961).

4. *E.g.*, Raleigh News and Observer, Sept. 13, 1981, § 6 (Magazine).

5. *E.g.*, State v. Roye, 254 N.C. 704, 120 S.E.2d 169 (1961).

estimate of the weight that the trier of fact will give to the opinion, and a demand that the opinion be almost infallible because the trier will think it so."<sup>6</sup> The problem is that the polygraph has not reached the stage where the opinion testimony of the examiner may be relied upon as "infallible."

### I. THEORY, TECHNIQUE, AND PRACTICAL APPLICATION

The machine popularly known as the "lie-detector" detects neither lies nor the truth. "All it does is record bodily activity when a person is asked certain questions, stimulated by questions which are either neutral, relating to the crime, or control questions."<sup>7</sup> Though the function of the machine can be rather simplistically stated, the machine and its operation, as well as the history of lie detection by measuring physical changes, is far more complex. One commentator has suggested that the beguiling notion of a machine that truly tells when a man tells lies is "a throwback to early forms of trial by ordeal."<sup>8</sup>

There are reports of a deception test used by Indians based on the observation that fear may inhibit the secretion of saliva. To test credibility, an accused was given rice to chew. If he could spit it out he was considered innocent, but if it stuck to his gums he was judged guilty.<sup>9</sup>

Another ancient "trial" required the suspect to "grasp a white-hot metal rod and carry it to a designated point. Then the seared hand would be carefully bandaged. If the scars did not heal by a certain day, the accused would be considered guilty and punished as the codes decreed."<sup>10</sup>

An instrument was used for the first time in 1895 in experiments conducted by the Italian Cesare Lombroso, the results of which he published in a book.<sup>11</sup> Lombroso used an "hydrosphygmograph," a medical device already in existence used to measure blood pressure-pulse changes, for the purpose of detecting deception in suspects being questioned about a particular crime. With regard to its use, the Lombroso "hydrosphygmograph" was clearly the forerunner to the modern polygraph; the operation of this earlier instrument, however, may just as clearly be distinguished.

Lombroso obtained recordings on a smoked drum of changes in pulse patterns and blood pressure. The instrument consisted essentially of a small water filled tank into which the subject's hand was placed. The

6. C. McCORMICK, *supra* note 1, at 507.

7. J. CEDERBAUMS & S. ARNOLD, *SCIENTIFIC AND EXPERT EVIDENCE IN CRIMINAL ADVOCACY* 217 (1975).

8. Skolnick, *supra* note 3, at 696.

9. 1 C. LOMBROSO, *L'HOMME CRIMINEL* 336-46 (2d ed. 1895).

10. E. BLOCK, *LIE DETECTORS* 12 (1977).

11. C. LOMBROSO, *supra* note 9.

immersed fist was then sealed across the top of the tank by a rubber membrane. Changes in pulse pattern and blood pressure in the fist were presumably transferred to the water and changes in the water level were carried over into an air-filled tube leading to a revolving smoked drum.<sup>12</sup>

The modern polygraph operation employs certain body attachments and a four-part, well-delineated procedure to measure and record the subject's "responses" to a series of questions.<sup>13</sup> The body attachments normally include pneumograph tubes, a blood pressure cuff, electrodes, and inflated "bladders." The pneumograph tubes are fastened around the subject's chest and abdomen. The tubes stretch as the subject inhales and contract as he exhales, which movement is carried via smaller tubes to pivot shafts on which are mounted recording pens. The recording pens chart minute changes in the subject's respiration pattern on a graph. The blood pressure cuff, similar to the kind used in routine blood pressure tests, is fastened around the upper arm of the subject. The rubber cuff inflates and deflates, corresponding to changes in the subject's blood pressure; these increases and decreases in pressure are transmitted to graphpaper in the same manner as are the respiratory changes. Electrodes are fastened to the hands and fingers for the purpose of obtaining the galvanic skin reflex (GSR), or electrodermal response. Electric current passes through these electrodes and is measured for variations by a recording galvanograph unit. Inflated "bladders" are positioned under the arms, seat, or back of the subject to record additional body movements. All of these recordings are made simultaneously by the recording pens upon the graphpaper by way of a kymograph, which consists of a "chart drive mechanism composed of a synchronous clock motor with friction wheel or chain drive calibrated to run at a uniform rate of 6 inches per minutes."<sup>14</sup> The mechanical process sketched above is absolutely crucial to the operation of the polygraph. The examiner must have accurate data to serve as the basis for analysis and his subsequent judgment.

Once the subject is situated before a mechanically trustworthy polygraph, the remaining analysis is based not upon mechanics, but upon the psychological premise that "lying causes stress." "A lie is an emergency to the psychological well-being of a person and causes stress. Attempts to deceive cause the sympathetic branch of the autonomic nervous system to react and cause bodily changes of such a magnitude that they can be measured and interpreted."<sup>15</sup> The subject is carefully

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12. J. REID & F. INBAU, *supra* note 2, at 2.

13. Skolnick, *supra* note 3, at 695.

14. J. REID & F. INBAU, *supra* note 2, at 6, n.13.

15. *United States v. Ridling*, 350 F. Supp. 90, 92 (E.D. Mich. 1972).

led through a step-by-step, four-part procedure designed to create an "emergency" which the apparatus will record.

The four-part procedure consists of data collection, a pretest interview, actual testing, and a post-test interview.<sup>16</sup> During the first step, the examiner collects information relating to the subject personally and to the facts and circumstances surrounding the purpose of the examination. The examiner should be informed of the subject's background, his or her health, age, education, and so on. He must also have a clear understanding of the particular case. If a crime is involved, the examiner is expected to know as many of the details as possible at this stage. It is even suggested that a secretary or receptionist make note of the subject's demeanor from the moment he enters the reception room until he is later escorted into the examination room.<sup>17</sup> The pretest interview is the second part of the examiner's procedure. The subject is given some idea as to the events about to unfold. He is told about the machine and its accuracy in detecting deception. He is encouraged by the examiner to ask questions regarding the machine. Simultaneously, the examiner is observing and making note of the demeanor and bodily movements of the subject, including eye movements and hesitancy in speech. The examiner will inform the subject of the matter being investigated and of his intention to question only as to that matter; however, "at no time during the pretest interview should the examiner indulge in any interrogation aimed at determining the subject's deception or truthfulness, or at obtaining a confession of guilt."<sup>18</sup> The concern is that the subject will be shaken and intimidated by any accusatory statements from the examiner, and thereafter will not be a suitable subject for accurate testing.<sup>19</sup> An exception is made if the subject indicates the desire to confess to the matter before beginning testing.<sup>20</sup> The third step in the examiner's procedure is the actual testing, the true focal point of the entire examination. The testing technique most often employed is the so-called "control question approach."<sup>21</sup> The control question approach is strategically designed to elicit a "response" by using particular component questions. The following is typical.

1. *The irrelevant or neutral question*: Generally posed at the beginning and end of the test, these questions relate to completely neutral subjects such as name, date of birth, and social security number. The

16. Greenspan, *Commonwealth v. Vitello: The Role of the Polygraph in Criminal Trials Under Massachusetts Law and the Federal Rules of Evidence*, 15 NEW ENG. L. REV. 837 (1980).

17. J. REID & F. INBAU, *supra* note 2, at 13.

18. *Id.* at 17.

19. *Id.*

20. *Id.*

21. S. ABRAMS, *A POLYGRAPH HANDBOOK FOR ATTORNEYS* 75 (1977).

primary purpose of the neutral question is to return the subject to his essentially normal physiological base after a question designed to create stress. Another reason for the "bookends" location of the neutral question is that subjects have a tendency to "respond" to the first and last questions asked regardless of the substance of those questions, thus a crucial question at these points could be inaccurately interpreted.

2. *The relevant question:* This is the critical question. For example, "On July 30, 1981, did you take the money from the Holiday Inn?" The relevant question should be brief, clear, and, to the extent possible, free of emotive words, such as "rape" or "murder", in order to avoid a reaction to the words themselves rather than to the events behind them. The question should contain a single issue, as "Did you assault John Doe?" The examiner should avoid asking "Did you assault and rob John Doe?" because the subject may have done one and not the other, thus his response to a compound question may be misleading.

3. *The control question:* The control question is designed to elicit a lie, known or assumed by the examiner, with which the subject's responses can be compared to other questions. Often the examiner will have obtained some information relating to the subject's past of which the subject is unaware, perhaps something to which the ordinary person would not readily admit. When tested the subject may give what the examiner knows to be an untruthful response. Often, the examiner must assume a lie in response to a carefully posed question or series of questions regarding conduct which, for social reasons or otherwise, the subject will deny when the truth of the denial is most unlikely. Examples of such control questions are:

Did you ever take anything of value from an employer?

Did you ever take advantage of a friend?

Did you ever want to see someone seriously hurt?

Did you ever use any force in getting a female to do something sexual?<sup>22</sup>

Questions denied are then used as control questions and are matched to the crime for which the subject is a suspect, such as theft-to-theft or assault-to-violence. The control question provides a means of comparison to the relevant question. Without a control question, a substantial reaction to the relevant question may be interpreted as deception when in fact the subject is just highly responsive. Similarly, a weak reaction could be interpreted as a truthful response when the subject is simply one who displays little physiological reactivity.

4. *The outside issue question:* A very specific question is developed to indicate whether outside issues are interfering with the test and the results. The usual question: "Are you afraid I'll ask a question about

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22. *Id.*

matters that we did not discuss in the pre-test interview?" Where the subject "responds" to this he is most likely concerned that other activity, criminal or otherwise, will be the subject of questioning. In such a case the examiner will stop the test to reassure the subject as to the focus of his questioning. The test can then be continued.

5. *The guilt complex question*: This question is designed to reveal whether the subject is so anxious and fearful that he responds to any accusatory question. The examiner develops a fictitious crime, usually one factually similar to the matter being investigated, and interrogates the subject so seriously that the subject reasonably believes he is suspected of committing this fictitious crime. Response to a crime that does not exist indicates that the subject has a "guilt complex" and is unsuitable for polygraph testing.

The post-test interview is the fourth and final step in the procedure. The examiner informs the subject of the overall examination results and is usually quite brief where no deception was indicated. However, where the subject did show deception or where the results are inconclusive, the examiner will usually accuse the subject, hoping to elicit a confession.

## II. THE GENERAL RULE OF COURTROOM INADMISSIBILITY

Polygraph evidence is inadmissible in federal courts<sup>23</sup> and in the courts of North Carolina,<sup>24</sup> unless the parties stipulate otherwise. The first federal appellate court decision declaring the inadmissibility of polygraph evidence was *Frye v. United States*,<sup>25</sup> a 1923 decision stating for its rationale the oft-repeated "general acceptance standard":

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs. We think the systolic blood pressure deception test has not yet gained such standing and scientific recognition among physiological and psychological authorities as would justify the courts in admitting expert testimony deduced from the discovery, development, and experiments thus far made.<sup>26</sup>

23. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923); *United States v. Wilson*, 361 F. Supp. 510 (D. Md. 1973).

24. *State v. Foye*, 254 N.C. 704, 120 S.E.2d 169 (1961); *State v. Brunson*, 287 N.C. 436, 125 S.E.2d 94 (1975).

25. 293 F. 1013.

26. *Id.* at 1014.

The *Frye* "general acceptance standard" has not been seriously questioned in any subsequent appellate court decision. However, it was strongly challenged in *United States v. Wilson*<sup>27</sup> on the basis that of the many types of scientific evidence only the polygraph was being held to such a high standard. To this argument the court responded:

It is argued in addition that polygraphy is as reliable as fingerprinting, handwriting, ballistics, neutron activation analysis, medial analysis (bloodtesting, toxicology), and other forms of scientific evidence which courts have admitted. Like polygraphy, the physical sciences often rely on nonphysical intellectual models. For example, the theory which underlies neutron activation analysis and bloodtesting involves *conceptual* models which explain and predict observable phenomena. But like fingerprints and handwriting, *these processes are much more susceptible to controlled experimental verification*. The court may take judicial notice that the physical sciences exceed the social sciences, including clinical psychology, in terms of experimental quantification and verifiability. Indeed, the uniqueness of the human psyche still provokes debate as to whether the study of human behavior can approach scientific standards as understood in the physical disciplines.<sup>28</sup>

The *Frye* position, reaffirmed in *Wilson*, that polygraph evidence is inadmissible has been practically unassailable within the federal court system, and apparently has had far-reaching effect upon the state judicial systems as well.<sup>29</sup>

In the leading North Carolina case holding polygraph evidence inadmissible, *State v. Foye*,<sup>30</sup> two defendants were being tried on a charge of first degree murder. Both were taken to Raleigh for a polygraph examination. At trial the court allowed a deputy sheriff and the defendant Foye to testify that Foye had taken the test and that the examiner had said Foye told the truth. Upon the prosecutor's cross-examination of the deputy sheriff, he testified that the defendant Williams had also taken the polygraph test, but no mention was made as to the results of his test. When both defendants were subsequently convicted, defendant Williams appealed and assigned as error the admission of the polygraph evidence. The court, noting the national trend to exclude such evidence, first stated that polygraph evidence is incompetent in North Carolina to prove the guilt or innocence of a defendant in a criminal trial.<sup>31</sup> The court further stated that the trial court, in allowing the examination of the deputy and defendant Foye, did "indi-

27. 361 F. Supp. 510.

28. *Id.* at 513-14.

29. An overwhelming majority of the states have followed *Frye*; notable exceptions are Michigan, New Mexico, and New York (which permit the admission of unstipulated polygraph testimony even over objection of the opposing party) and New Jersey (which permits admission of unstipulated polygraph evidence). 14 AM. JUR.2D *Proof of Facts* § 8 nn.66-68 (1977).

30. 254 N.C. 704, 120 S.E.2d 169 (1961).

31. *Id.* at 708, 120 S.E.2d at 172.



rectly what would be highly improper if done directly. It was designed to leave the inference that the defendant Foye was telling the truth about the whole matter and amounted to informing the jury of the results of the lie detector tests."<sup>32</sup> The court held that admission of the evidence was prejudicial error not cured by the trial judge's admonition that the evidence be applied only to the defendant Foye and not to Williams.<sup>33</sup> The court cited as grounds for its decision to exclude polygraph evidence the probable distraction of the jury, the fact that the lie detector machine cannot be cross-examined, and general incompetency of the machine as an instrument of evidence.<sup>34</sup>

In *State v. Brunson*,<sup>35</sup> the North Carolina Supreme Court reconsidered the question of admissibility of polygraph evidence "in light of technological and judicial advances since *Foye* was decided in 1961."<sup>36</sup> In *Brunson* the defendant submitted to the test voluntarily, the test was found to have been administered by a competent examiner, and the results, if admitted, would have benefitted the defendant. However, the court quoted extensively from Chief Justice Winborne's opinion in *Foye* and decided to "adhere to our decision in *Foye* for the reasons stated therein."<sup>37</sup>

The early cases emphasize the "general acceptance standard" of *Frye*, but more recent court decisions and commentaries reject the evidence on the basis of general examiner incompetence and the inaccuracy of the results. Both problems test the reliability of polygraph evidence and enhance the concern that prejudicial weight will be given it if admitted.

### III. THE PROBLEMS OF EXAMINERS AND ACCURACY

While recent decisions<sup>38</sup> have backed away somewhat from the rigid scientific standard imposed by *Frye*, polygraph examiners and the accuracy of the test results have increasingly come under attack. In noting that the polygraph does in fact have some merit,<sup>39</sup> McCormick emphasizes that "the interpretation by the polygraph examiner, not only of the charts, but of the questions and answers they accompany,

32. *Id.* at 709, 120 S.E.2d at 173.

33. *Id.* at 707, 120 S.E.2d at 171.

34. *Id.* at 708, 120 S.E.2d at 172.

35. 287 N.C. 436, 215 S.E.2d 94 (1975).

36. *Id.* at 445, 215 S.E.2d at 100.

37. *Id.*

38. See *United States v. Ridling*, 350 F. Supp. 90 (E.D. Mich. 1972); *United States v. Zeiger*, 350 F. Supp. 685 (D.D.C.), *rev'd per curiam*, 475 F.2d 1280 (D.C. Cir. 1972).

39. "It seems to be conceded that the instrument does measure the information channels it is designed to monitor, namely the physiological changes. However, such changes can accompany internal stress having as its cause something other than conscious insincerity." C. McCORMICK, *supra* note 1, at 505.

and the total interview situation, is the critical factor in arriving at any opinion that when giving particular answers the subject was making a conscious effort to deceive."<sup>40</sup>

In *United States v. Wilson*,<sup>41</sup> the court distinguished the polygraph evidence from other scientific evidence because of the crucial role of the examiner:

A study of the theory and process of the polygraphy examination reveals complexities not present in the fields of fingerprint, handwriting, voiceprint, ballistics, and neutron activation analysis, all of which are based on the identity or behavior of physical phenomena. The experts and studies differ as to the capability of the polygraph industry to cope with these complexities, but none would dispute their existence. The distinction is that polygraphy, albeit based on a scientific theory, remains an art with *unusual responsibility* placed on the examiner. The acquainting of the examiner with the subject matter is often a source of improper suggestion, conscious or subconscious. The preparation of the test and discussion with the examinee of the polygraph procedure furnishes additional opportunity for improper subjective evaluation.<sup>42</sup>

A primary problem of examiner competency is one of qualifying standards: there are very few standards and what few there are are frequently not met. The American Polygraph Association has a three-fold standard: a college degree, training in an accredited polygraph institute, and apprenticeship experience in conducting at least 200 examinations.<sup>43</sup> It is recognized that the majority of examiners are either private practitioners or employed by law enforcement agencies, and that most do not possess these basic qualifications or an adequate understanding of the polygraph technique theory.<sup>44</sup> Unfortunately, the usual training program attended by polygraph examiners is six weeks in length.<sup>45</sup> Reid and Inbau,<sup>46</sup> noted scholars of polygraphy and advocates of polygraph advancement, would impose more stringent qualifications upon examiners giving expert testimony, yet acknowledge that many individuals who hold themselves out as examiners do not possess these qualifications.<sup>47</sup>

Before permitting the results to be admitted in evidence in any case . . . the courts should require—

1. That the examiner possess a college degree;

40. *Id.*

41. 361 F. Supp. 510 (D. Md. 1973).

42. *Id.* at 512.

43. A.P.A. CONST. art. III, § 1.

44. Reagan, *U.S. v. Ridling—The Polygraph Breaks the Twilight Zone*, 23 CATH. U.L. REV. 101, 114-15 (1973); accord A. MOENSSENS & F. INBAU, SCIENTIFIC EVIDENCE IN CRIMINAL CASES 605 n.2 (2d ed. 1978).

45. REAGAN, *supra* note 44, at 115.

46. J. REID & F. INBAU, *supra* note 2.

47. J. REID & F. INBAU, TRUTH AND DECEPTION 257 (1966).

2. That he has received at least six months internship training under an experienced, competent examiner or examiners with a sufficient volume of case work to afford frequent supervised testing in actual case situations;
3. That the witness have at least five years' experience as a specialist in the field of polygraph examinations; and
4. That the polygraph examiner's testimony must be based upon polygraph records that he produces in court and which are available for cross-examination purposes.<sup>48</sup>

Presently, only seventeen states, North Carolina among them, have licensing statutes in effect for polygraph examiners.<sup>49</sup> The North Carolina statute defines "[d]etection of deception examiner" as "any person, firm, association, or corporation which uses any device or instrument, regardless of its name or design, for the purpose of detection of deception."<sup>50</sup> For each applicant, the statute requires "a background investigation to be made during the course of which the applicant shall be required to show that he meets all the following requirements and qualifications hereby made prerequisite to obtaining a license:

1. That he is at least 18 years of age; and
2. That he is of good moral character and temperate habits."<sup>51</sup>

In addition to general objective qualifications of examiners such as a college degree and a period of apprenticeship, at least one commentator has noted that the polygraph process "demands familiarity with several medical specialties, plus an understanding of clinical and social psychology" in order to assess and distinguish a subject's physiological abnormalities and emotional tendencies.<sup>52</sup>

Even when examiner competency is proven or assumed, courts and commentators continue to assail the accuracy of the polygraph. The court in *State v. Foye*<sup>53</sup> stated: "[A]uthorities show that the lie detector tests prove correct in their diagnosis in about 75% of the instances used. In other words, such factors as mental tension, nervousness, psychological abnormalities, mental abnormalities, and unresponsiveness in a lying or guilty subject account for 25% of the failure in the use of the lie detector."<sup>54</sup> In *United States v. Wilson*,<sup>55</sup> the federal district court named other factors that could undermine the results of the examination: "psychosis, extreme neurosis, psychopathology, drunkenness,

48. *Id.*

49. J. REID & F. INBAU, *supra* note 2, at 349 n.178. Alabama, Arkansas, Florida, Georgia, Illinois, Kentucky, Michigan, Mississippi, Nevada, New Mexico, North Carolina, North Dakota, Oklahoma, South Carolina, Texas, Vermont, and Virginia have licensing statutes.

50. N.C. GEN. STAT. § 74C-3(a) (1979).

51. *Id.* at § 74C-8(d).

52. Skolnick, *supra* note 3, at 705.

53. 254 N.C. 704, 120 S.E.2d 169 (1961).

54. *Id.* at 708, 120 S.E.2d at 171.

55. 361 F. Supp. 510 (D. Md. 1973).

drugs, pathological liars," and (for those subjects trying to "beat the test") "a yoga-like abstraction of the mind, controlled breathing, artificial hidden muscle contractions, self-infliction of pain, and artificial conjuring of exciting images."<sup>56</sup> There is also evidence that a subject's firm belief in the veracity of his answers, regardless of the reasonableness for such a belief, can affect the results. In hearings before Congress one witness testified that "[w]e have examined people in mental hospitals. If the patient said he was Napoleon, and if he believed this, the lie detector response indicated that he was telling the truth. All that the lie detector showed is that he believed what he was saying."<sup>57</sup> According to Dr. David T. Lykken, a professor of psychiatry and psychology at the University of Minnesota in Minneapolis, studies made of the use of polygraphs in criminal investigations "show an average of 60-to-75 percent accuracy."<sup>58</sup> The professor points out that you can get fifty percent accuracy just by flipping a coin.

#### IV. THE CASE FOR ADMITTING POLYGRAPH EVIDENCE

Advocates of the polygraph have not grown disheartened and they have continued to argue for expanding the admissibility of polygraph evidence. One district court case offering substantial hope was *United States v. Ridling*.<sup>59</sup> *Ridling* held that where the defendant in a perjury trial offers polygraph testimony, such testimony would be received provided that the defendant would submit to additional testing by an examiner appointed by the court from three independent examiners selected by the parties. Such examiner, after the examination, must also have been able to form an opinion as to the defendant's truthful-

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56. *Id.* at 512-13. See SCIENCE, Apr. 3, 1981, at 71-72, reporting the findings of laboratory experiment designed to determine whether the widely used tranquilizer meprobamate, sold as Miltown and under other brand names, allows people to lie without detection in polygraph tests. The study involved 44 male college student volunteers between the ages of 18 and 24. The subjects were told to memorize six words; 33 of them were assigned to a "guilty" group and were instructed to lie when asked about the six words during the polygraph test. The remaining 11, designated the "innocent" group, were instructed to tell the truth.

The "guilty" subjects were divided into three groups. One group took the tranquilizer, another took a placebo, and the third group received nothing. Subjects in the first two groups were told they were being given a tranquilizer to help them deceive the polygraph examiners.

The examiners identified most of the "guilty" subjects who had taken the sham pills or no pill, but most who had taken the tranquilizer were incorrectly identified as innocent. Moreover, the examiners were unable to discern who had taken the tranquilizer and who had not.

The authors of the report offered a single qualification to the results which showed the drug to clearly outwit the polygraph examiners. The deemed it possible that the drug could be more effective in the experimental laboratory than under the fear-inducing circumstances of actual polygraph testing.

57. C. McCORMICK, *supra* note 1, at 505 n.1.

58. Raleigh News and Observer, Sept. 13, 1981, § 6 (Magazine), at 10.

59. 350 F. Supp. 90 (E.D. Mich. 1972).

ness.<sup>60</sup> The court was quick to sum up the existing state of the law of polygraph evidence: "Judicial opinions pertaining to the admission of polygraph testimony seem all to point toward exclusion."<sup>61</sup> The court construed the rule of exclusion to have been "predicated on the unreliability of the polygraph," but "[t]he evidence in this case indicates that the techniques of the examination and the machines used are constantly improving and have improved markedly in the past ten years."<sup>62</sup> Unfortunately, the court's opinion does not reveal any of this evidence of "marked improvement." It does, however, focus upon several evidentiary considerations raised in prior case law on the issue of admissibility of polygraph evidence: weight of the evidence, self incrimination, the trial process, and hearsay. Allowing great weight to be given polygraph evidence is proper because "the relevancy of the polygraph evidence is high and its use will likely protect both society and the defendant."<sup>63</sup> Admitting the evidence is not a violation of the privilege against self incrimination but only "another way of supporting or attacking credibility."<sup>64</sup> The trial process would not be harmed because jurors are thinking, reasoning individuals who "are really very good at disregarding experts who attempt to inject their opinions into areas of which they have little knowledge."<sup>65</sup> Finally, the court states that an examiner's recitation to the jury of statements made by the subject and supported by the examiner's opinion of the truthfulness of those statements is hearsay, however "the evidence should be admitted as an exception to the hearsay rule because of its high degree of trustworthiness."<sup>66</sup> The court's conclusion sets out a checklist of terms and conditions to be followed for proper admission of polygraph evidence.<sup>67</sup>

Another district court case favorable to admitting polygraph evi-

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60. *Id.* at 99.

61. *Id.* at 93.

62. *Id.* at 94.

63. *Id.* at 96.

64. *Id.* at 98.

65. *Id.*

66. *Id.* at 99.

67. *Id.* The court stated:

1. The parties will meet and will recommend to the Court three competent polygraph experts other than those offered by the defendant.
2. The Court will appoint one or more of the experts to conduct a polygraph examination.
3. The defendant will submit himself for such examination at an appointed time.
4. The expert appointed by the Court will conduct the examination and report the results to the Court and to the counsel for both the defendant and the government.
5. If the results show, in the opinion of the expert, either that the defendant was telling the truth/or that he was not telling the truth on the issues directly involved in this case, the testimony of the defendant's experts and the Court's experts will be admitted.

In the event the defendant declines to participate or cooperate in the test, none of the polygraph evidence will be admitted.

dence is *United States v. Zeiger*.<sup>68</sup> Defendant's counsel, F. Lee Bailey, sought and was granted a pre-trial evidentiary hearing on the admissibility of polygraph evidence. The hearings lasted several days due to extensive expert testimony submitted by the defendant intended to establish a foundation for the admission of the evidence. The court concluded that an adequate and sufficient foundation had been established, therefore the expert who administered the test would be allowed to assess the truthfulness of defendant's answers to factual questions and explain the basis for his opinion, though he would not be allowed to give an opinion as to guilt or innocence.<sup>69</sup> The court cited *Ridling* in the opinion as indication that at least one federal district judge would admit polygraph evidence under certain conditions.<sup>70</sup> The court squarely confronted "the problem which has traditionally caused the courts the greatest concern"<sup>71</sup> in this area, i.e., legal relevance, or the fear that jurors would consistently attach "exaggerated significance" to the examiner's testimony. The court suggested that "[c]arefully conducted trial procedure can offer opportunities to alert the jurors to the value and limitations of polygraph technique,"<sup>72</sup> and "[a]fter considering the basis of the examiner's opinion and the other foundational material presented, the jury may perform its customary duty of attaching whatever significance to the opinion that it believes is warranted."<sup>73</sup> The court's decision was subsequently overruled *per curiam* by the Court of Appeals for the District of Columbia.<sup>74</sup>

In contrast to the general rule of inadmissibility is the trend of admitting polygraph evidence when stipulated to by the parties. The leading case for establishing the stipulation rule is *State v. Valdez*.<sup>75</sup> In *Valdez* the defendant, his counsel, and the county attorney in a written stipulation agreed that the defendant would take a polygraph examination and that the results would be admissible at the trial. The results were unfavorable to the defendant and, at trial, the examiner was permitted to testify to the results over the defendant's objections. After a verdict of guilty, but before sentencing, the trial judge certified the following question to the Supreme Court of Arizona:

In a criminal case, if prior to trial the defense attorney, on behalf of his client and with his client's consent, and the deputy county attorney agreed in a written stipulation that the results of a polygraph test, to be taken by the defendant, will be admissible as evidence at the trial, on

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68. 350 F. sup. 685 (D.D.C.), *rev'd per curiam*, 475 F.2d 1280 (D.C. Cir. 1972).

69. 350 F. Supp. at 691.

70. *Id.* at 689.

71. *Id.* at 691.

72. *Id.*

73. *Id.*

74. 475 F.2d 1280 (D.C. Cir. 1972).

75. 91 Ariz. 274, 371 P.2d 894 (1962).

behalf of either the State of Arizona or the accused, may the trial court admit the results of the test over the objection of defense counsel?<sup>76</sup>

The court held that "although much remains to be done to perfect the lie-detector as a means of determining credibility it has developed to a state in which its results are probative enough to warrant admissibility upon stipulation and hence, subject to certain qualifications, polygraphs and expert testimony relating thereto are admissible upon stipulation."<sup>77</sup> The court dealt with the legal relevancy problem by directing the judge to give an instruction that "the examiner's testimony does not tend to prove or disprove any element of the crime with which a defendant is charged but at most tends only to indicate that at the time of the examination defendant was not telling the truth," and that they should determine the weight and effect to be given the examiner's testimony.<sup>78</sup>

The North Carolina Court of Appeals reached a similar result in *State v. Steele*,<sup>79</sup> citing verbatim the "qualifications" of *Valdez*. In *Steele*, the defendant, his counsel, and the assistant district attorney entered into a written stipulation that a polygraph examination would be given the defendant and that the results would be admitted into evidence. Nevertheless, defendant assigned as error the admission of an examiner's testimony that two relevant questions were asked and defendant's answers showed deception. The court, in finding no error, noted that the trial court had followed the qualifications of *Valdez* and had specifically instructed the jury that they "not consider the results of

76. *Id.* at 276, 371 P.2d at 900-01.

77. *Id.* at 283-84, 371 P.2d at 900-01. The court stated the qualifications as:

(1) That the county attorney, defendant and his counsel all sign a written submission to the test and for the subsequent admission at trial of the graphs and the examiner's opinion thereon on behalf of either defendant or the state.

(2) That notwithstanding the stipulation the admissibility of the test results is subject to the discretion of the trial judge, i.e. if the trial judge is not convinced that the examiner is qualified or that the test was conducted under proper conditions he may refuse to accept such evidence.

(3) That if the graphs and the examiner's questions are offered in evidence the opposing party shall have the right to cross-examine the examiner respecting:

- a. the examiner's qualifications and training;
- b. the conditions under which the test was administered;
- c. the limitations of and possibilities for error in the technique of polygraphic interrogation; and
- d. at the discretion of the trial judge, any other matter deemed pertinent to the inquiry.

(4) That if such evidence is admitted the trial judge should instruct the jury that the examiner's testimony does not tend to prove or disprove any element of the crime with which a defendant is charged but at most tends only to indicate that at the time of the examination defendant was not telling the truth. Further, the jury members should be instructed that it is for them to determine what corroborative weight and effect such testimony should be given.

*Id.*

78. *Id.*

79. 29 N.C. App. 496, 219 S.E.2d 540 (1975).

the test as evidence as it might bear on defendant's credibility."<sup>80</sup>

## V. THE CASE AGAINST ADMITTING POLYGRAPH EVIDENCE

The most recent case on the admissibility of polygraph tests and testimony of polygraph examiners is *People v. Anderson*,<sup>81</sup> a case adopting the rule that polygraph evidence is not competent and must be excluded whether stipulated to or not. Despite what the Colorado Supreme Court termed "the increased degree of acceptance that the modern polygraph instrument has recently received,"<sup>82</sup> the court firmly restated the traditional arguments against admitting polygraph evidence. The scientific theory or technique of the polygraph still is "not sufficiently advanced to permit its use at trial as competent evidence of credibility."<sup>83</sup> Noting that physiological and psychological factors may impair polygraph accuracy, the court was not persuaded that the "stress of lying" necessarily produces responses that can be "reliably characterized as indicating deception."<sup>84</sup> The court expressed the concern that inadequate qualification standards and general incompetence of examiners "heighten the possibility of grave abuse of the polygraph technique and procedure."<sup>85</sup> Conceding that "the accuracy of the physiological measurements themselves cannot be challenged if the polygraph instrument is working properly," the court said the "most important factor in the proper use of a polygraph is the ability, experience, education, and integrity of the examiner."<sup>86</sup> Where any of these factors are questionable "the results of the test are meaningless." Of most concern to the court in *People v. Anderson* was the problem of legal relevancy. The court stated that the admission of polygraph evidence would "unfairly prejudice and mislead the jury."<sup>87</sup> The court believed that the jury would rely too heavily upon the evidence and give "significant, if not conclusive, weight to a polygrapher's opinion as to whether the accused was truthful in his response to a question regarding a dispositive issue in a criminal case."<sup>88</sup> This, reasoned the court, would allow the polygraph examination to "usurp the jury's function in determining the truth by observing the demeanor of a wit-

80. *Id.* at 501, 219 S.E.2d at 544.

81. — Colo. —, 637 P.2d 354 (1981). In this case polygraph test results and testimony of a polygraph examiner were admitted over objection as evidence for the defense at a criminal trial. The defendant was found not guilty. On appeal of the district court's ruling, the prosecution asserted that the trial court erred in admitting the polygraph evidence.

82. *Id.* at —, 637 P.2d at 359.

83. *Id.*

84. *Id.* at —, 637 P.2d at 360.

85. *Id.*

86. *Id.*

87. *Id.* at —, 637 P.2d at 361.

88. *Id.*



ness in the course of a trial.”<sup>89</sup> In rejecting the stipulation rule, the court questioned whether such a rule “adequately resolves either the inherent defects in the polygraph technique and procedure, or the difficult questions of admissibility.”<sup>90</sup>

Reid and Inbau believe that the proper governmental agency to determine whether polygraph evidence should be admissible in evidence is the legislature and not the judiciary. “It ought to be resolved upon the basis of broad policy considerations, thoroughly aired and considered, rather than in the context of the facts of a particular case situation where only the views of the litigants are effectively presented.”<sup>91</sup> To date, neither Congress nor any state legislature has been an impetus in this direction.

Others believe that the polygraph should be restricted to use as an investigative tool to narrow the range of suspects in criminal investigations.<sup>92</sup> Still others have responded bitterly to the recent widespread use of the polygraph among employers, especially when used to “infer guilt” from an employee’s refusal to be tested.<sup>93</sup> While willing to agree to the highest estimates of testing accuracy, many would still exclude the evidence because:

1. the veracity of a witness or defendant is an improper subject of expert testimony;
2. a jury is likely to place undue reliance on polygraph results and, therefore, is likely to be misled by them;
3. their admission would result in a great and unnecessary waste of time;
4. their admission would cause a grave confusion of the issues;
5. their admission could lead to unfair prejudice to parties; and
6. the possible uses of polygraph results, except possibly in rare instances, do not come within any accepted evidentiary rule.<sup>94</sup>

### CONCLUSION

During the Watergate hearings, Senator Sam Ervin angrily rejected a proposal that witnesses be polygraphed, saying that the “contraptions are nothing more than 20th century witchcraft.”<sup>95</sup> While this view appears to be somewhat harsh, the consensus today clearly stands opposed to broadening the use of polygraph evidence.

The consensus has developed from various criteria applied to poly-

89. *Id.*

90. *Id.* at —, 637 P.2d at 362.

91. J. REID & F. INBAU, *supra* note 47, at 258.

92. J. CEDERBAUMS & S. ARNOLD, *supra* note 6, at 227.

93. MARRO, *Due Process Jeopardized by New Polygraph Policy*, 2 AM. L. 32 (1980).

94. ABBEL, *Polygraph Evidence—The Case Against Admissibility in Federal Criminal Trials*, 15 AM. CRIM. L. REV. 29, 60-61 (1977).

95. Marro, *supra* note 94.

graph evidence. Generally, the focus has been upon criteria normally applied to any type of scientific evidence, i.e., general acceptability within the scientific community. Secondary emphasis has focused upon legal relevance, balancing reliability factors against prejudice factors. Scientifically, courts are concerned with accurate recordation, reliability, clarity, and unequivocalness of data. To the extent that a court finds these elements to be both present and persuasive it is inclined to accept an argument based purely on the mechanical attributes of the evidence producing device. All courts respond positively to devices testing fingerprints, blood, and ballistics; only a few, however, are willing to raise the polygraph to the same level of acceptability. The polygraph has so far been unable to pass the "general acceptability standard" of *Frye v. United States*,<sup>96</sup> decided in 1923.

The polygraph also fails the legal relevancy test. Factors affecting reliability are numerous: machine complexity, examiner competence, individuals' reactions both physiological and psychological, and many others. Courts are anxious to use any evidence bearing upon truth, thus these reliability factors are views in a light favorable to a finding of probative value. Nevertheless, the court is keenly aware of those interests which stand to be adversely affected by the admission of evidence substantially prejudicial to the defendant: the parties, the jury, the court, and justice.

The polygraph is deceiving us. Although no one has detected precisely the cause of its deception, any more than it has accurately detected deception in us, courts have openly and honestly put the polygraph to the test.

RICHARD A. ELMORE

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96. 293 F. 1013 (D.C. Cir. 1923).