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THE "FOURTH DEGREE": THE LIE DETECTOR

JACK STREETER* AND MELVIN M. BELLI†

Some police departments substitute for evidence the "third degree." It is illegal. Law courts could now supplement oral evidence with a "fourth degree"—the lie detector. It should be legal, when properly operated, when its results are properly introduced and weighed.

Any symposium on evidence ought to include some observations on cross-examination. A consideration of the instruments employable in the art of cross-examination should, of course, include a discussion of the instrument, the accepted use of which, some lawyers, and certainly the average layman, believe would make cross-examination unnecessary as to credibility.

The best legally available "lie detector" presently is a thorough and searching cross-examination by adept counsel. Most experienced trial judges, therefore, do not attempt to curb relevant cross-examination, although some argumentative and emphatic leading questions are accepted tools of the trade.

In an age of startling scientific discoveries, are other methods now employable to elicit truth rather than a method dependent upon forensic testimonial credibility? The lawyer must admit, as the layman often to his sorrow has experienced, that cross-examination is not a precisely measurable or scientifically accurate operation. It is not comparable to the preciseness of an engineer's measurements or a navigator's calculations, or even the surgeon's excision of a malignant growth. The efficacy of its very procedure is dependent upon the vagaries of emotion, personality, fright, surprise, mnemonic capacity, and the whimsies of the court's humor. An inaccurate, and certainly an unscientific, result is often obtained. It may well be that fright, rather than mendacity, precludes the truth.

If there were a precise means of determining truth, man might abandon his courts, his judges and his cross-examination. How nice it would be to administer quarter drams of "space doze" powder in a pleasant chocolate, under constitutional assurances, of course, and have Professor Schwartzenhauser of the State University assure standardized, one hundred per cent accurate results in all cases.

Man's history abounds with methods for seeking and determining truth. Philosophers, theologians, scientists and lawyers have sought, but never found, a simple and efficient way to distinguish fact from fantasy. The field of law has been especially unsuccessful in its methods. The rack, the wheel, the

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Inquisition, the third degree have all in turn been used to elicit truth.¹ The efficacy of some of these methods apparently still evokes their use abroad. But in this country, cross-examination alone remains, with the exception perhaps of certain metropolitan police forces who believe that the rubber hose is mightier than the reporter's notes.²

So the scientists, combining their knowledge of physics, physiology and psychology, have attempted to aid the law in its search for truth by developing a machine which would record the physiological manifestations of the psychological changes which take place when a human being lies.³ These machines are called "lie detectors."

Are they really "lie detectors"? Are they accurate? What are they and how are the tests given? Can the results be used in court?

HISTORY OF THE "LIE DETECTOR"

All of the various types of "lie detectors" are based on the principle that an emotional disturbance will have a physiological effect; and when an individual consciously lies, he will be emotionally disturbed due to the fear of detection and the "pangs of conscience."⁴

Subsequent to trial by ordeal, battle and torture, which undoubtedly were considered "highly scientific" in the days of their use, came the first really scientific attempt to determine veracity by other than natural, oral testimony and cross-examination.

Caesare Lombroso, great Italian criminologist, (1836-1909) and founder of the modern science of criminology, as early as 1895 published a paper on the results of changes in blood and blood pressure of an accused when questioned about a crime. The basis of his method was the absence or presence of changes in blood pressure and pulse rate when accused persons were talking about their alleged crimes.⁵ Basically, this is the "lie detector" today.

1. See generally, LARSON, LYING AND ITS DETECTION, c. 7 (1932). Trial by battle was made famous in Shakespeare, *Richard II*, Act I, Scene 2.

2. "Every step in the promotion of scientific crime detection is a step toward the abolition of the cruel and ineffective methods of establishing criminal identity, such as the 'third degree,' and also a step toward the realization of a criminal trial unhampered by technical procedure and unreliable evidence. The use of brutality by the police in securing confessions, the reception of flimsy testimony as to identity, and the ineffectiveness of circumstantial evidence may be curtailed by more reliance upon scientific data and less reliance upon individual 'reasoning.'" Baker and Inbau, *The Scientific Detection of Crime*, 17 MINN. L. REV. 602, 628-29 (1933).

3. See generally on the relation of law and science, Smith, *Scientific Proof*, 15 ROCKY MT. L. REV. 126 (1943). See Note, 34 A.L.R. 147 (1925).

4. Floch, *Limitations of the Lie Detector*, 40 J. CRIM. L. & CRIMINOLOGY 651 (1950); Sell, *Deception, Detection and the Law*, 11 U. OF PITT. L. REV. 210, 214 (1950).

5. INBAU, LIE DETECTION AND CRIMINAL INTERROGATION 2 (2d ed. 1948); Sell, *supra* note 4, at 211.

In 1915, William Marston further developed blood pressure changes⁶ and in 1914, Vittorio Benussi, together with Marston and Lombroso, the pioneers in this field, published a report on respiration changes as a measure of truthfulness. He indicated a correlation between inspiration-expiration ratio and truth.⁷

In 1921, John A. Larson completed an instrument to record simultaneously blood pressure, pulse and respiration during the entire period of interrogation.⁸ In 1922, Larson reported a high percentage of accuracy.⁹

THE APPARATUS AND THE RESULTS

In 1926, Leonarde Keeler developed what he calls the Keeler Polygraph. It consists of a combination of instruments: the cardiograph for pulse rate, sphygmograph for blood pressure, the pneumograph for the respiratory movements, and the galvanograph to record galvanic reflexes.¹⁰ Keeler calls the instrument the pneumo-cardio-sphygmogalvano-graph, for short, the polygraph, and he himself says it is erroneously called a "lie detector."¹¹

Keeler states "Almost anyone can operate a polygraph as well as he can hear sounds through a stethoscope, but only individuals with training and long experience can interpret the resultant recorded curves. The inexperienced operator cannot diagnose deception with a polygraph any more than he can diagnose a cardiac murmur with a stethoscope."¹²

Keeler believes that until competent operators are selected by examination and licensing in a particular state and the tests placed within their exclusive province, it should be unavailable for courtroom use.

6. Marston, *Psychological Possibilities in Deception Tests*, 11 J. CRIM. L. & CRIMINOLOGY 551 (1921); Marston, *Systolic Blood Pressure Symptoms of Deception*, 2 J. OF EXPERIMENTAL PSYCHOLOGY 117 (1917).

7. Benussi, *die Almnungssymptome der Luge*, 31 ARCHIV FUR DER GESAMTE PSYCHOLOGIE 244 (1914); INBAU, *op. cit. supra* note 5, at 3; Trovillo, *A History of Lie Detection*, 29 J. CRIM. L. & CRIMINOLOGY 848, 870 (1939).

8. Larson, *Modification of the Marston Deception Test*, 12 J. CRIM. L. & CRIMINOLOGY 390 (1921); Larson, *The Cardio-Pneumo-Psychogram and Its Use in the Study of Emotions with Practical Application*, 5 J. OF EXPERIMENTAL PSYCHOLOGY 323 (1922); Larson, *The Cardio-Pneumo-Psychogram in Deception*, 6 J. OF EXPERIMENTAL PSYCHOLOGY 420 (1923).

9. Larson, *The Berkeley Lie Detector and Other Deception Tests*, 47 A.B.A. REP. 619 (1922).

10. Inbau, *Scientific Evidence in Criminal Cases, II. Methods of Detecting Deception*, 24 J. CRIM. L. & CRIMINOLOGY 1140 (1934); Sell, *supra* note 4, at 212.

11. "To begin with, there is no such thing as a 'lie-detector.' There are no instruments recording bodily changes, such as blood pressure, pulse, respiration, or galvanic reflex, that deserve the name 'lie-detector' any more than a stethoscope, a clinical thermometer, or a blood count apparatus with a microscope can be called an 'appendicitis detector.' However, deception, guilt or innocence can be diagnosed from symptoms just as appendicitis, paranoia, or any other physical or mental disorder can be diagnosed." Keeler, *Debunking the "Lie-Detector,"* 25 J. CRIM. L. & CRIMINOLOGY 153 (1934).

12. *Id.* at 159.

In the field of "lie detection," as in the whole field of medicine, mistakes are made that are inexplicable. Nature often plays havoc with diagnosis and prognosis, in the medical consultation room. No two human beings are alike. Of the trillions and trillions of leaves, none have the same identical pattern. However, there is sufficient uniformity of subject matter and result now to surmise that, with competent operators, the lie detection test is perhaps more accurate, more fair than cross-examination.

Seventy-five per cent of the people questioned on the lie detector by Keeler have confessed.¹³ Compare this with the courtroom record of the witnesses every lawyer has met that he knows without doubt are lying, yet there is no confession of mendacity.

Electro-cardiographs, electro-encephalograms, and electro-myelographs have been allowed in court,¹⁴ yet medical men now agree that their results are far less certain than the accuracy of the polygraph and their workings much less understood.

Remarkably dramatic "lie detector" results are familiar to everyone from accounts in the popular magazines. A card player is told to choose a card from the deck. The polygraph operator tells him to answer "no" to every card he calls, even though it is the card he chooses. The almost imperceptible change in the subject's physiology when he "lies" in answering "no" to the true card enables the operator to determine the name of that card.

The fact that the subject may be extremely nervous, may be sluggish, or may be of a different personality than the previous person examined is no problem at all to the trained operator. Trial examinations to determine the norm level out the subject.¹⁵ The operator learns certain questions to pose, determines certain results just as the X-ray technician, the encephalographer, the electro-cardiographer. "Even though little is known of these mental processes in deception, diagnosis is still possible by recognition of the products of the processes, just as insanity can be diagnosed from symptoms although the basic mental processes are unknown; or cancer can be diagnosed, although the cause fo the disease is still a mystery."¹⁶

The lie detector thus does scientifically what the able cross-examiner may often ascertain for himself: Experienced cross-examiners determine little storm signs in the witness that indicate truth or lying. Judge Lowell thought that he had an infallible lie detector when he advised the jury that "You can

13. See Inbau, *The Lie-Detector*, 26 B.U.L. REV. 264, 268 (1946).

14. See generally, Riseman, *Principles of Electrocardiography*, 15 ROCKY MT. L. REV. 236 (1943); Smith and Riseman, *Applied Use of the Electrocardiogram in Legal Proceedings*, 15 ROCKY MT. L. REV. 251 (1943).

15. Sell, *supra* note 4, at 214.

16. Keeler, *supra* note 11, at 155.

determine when a man is lying by his wiping his hands together and sweating." This case was reversed. Judge Lowell's lie detector was not determined to be sufficiently scientific by the appellate court.¹⁷

Although no one claims 100% infallibility for the lie detector, *i.e.*, the polygraph, Inbau makes the following estimate based on the experience of the Chicago Scientific Crime Detection Laboratory: (1) the examiner can make a definite and accurate diagnosis in 75% of the cases; (2) the record will be too indefinite in its indications to permit a definite diagnosis in 20% of the cases; (3) the margin of probable error is 5%.¹⁸ Another experiment, which attempted to distinguish between actual guilt of crime and mere guilty knowledge, reports 86% accuracy.¹⁹

RESULTS AS EVIDENCE

The courts have shown great reluctance in recognizing the endeavors of the men of science. This reluctance has led to their holding the results of lie detector tests inadmissible.

A survey of the cases in this field, both reported and unreported, leads to the conclusion that there are three distinct lines of authority.

1. One line of cases refuses to admit the results of lie detector tests because the method has not achieved sufficient standing or scientific recognition.²⁰

2. A second line of cases recognizes that there might be validity to such tests, and therefore will probably admit them with a sufficient foundational showing of validity.²¹

3. A third line of cases will admit the results of a lie detector upon stipulation of the parties.²²

17. *Quercia v. United States*, 289 U.S. 466, 53 Sup. Ct. 698, 77 L. Ed. 1321 (1933). This decision reversed the court of appeals, 62 F.2d 746 (1st Cir. 1933), which had affirmed the trial court.

18. Inbau, *supra* note 13, at 268.

19. Baesen, Chung, and Yang, *A Lie-Detector Experiment*, 39 J. CRIM. L. & CRIMINOLOGY 532 (1948).

20. See *Frye v. United States*, 293 Fed. 1013 (D.C. Cir. 1923); *People v. Wochnick*, 98 Cal. App.2d 124, 219 P.2d 70 (1950); *State v. Cole*, 354 Mo. 181, 188 S.W.2d 43 (1945); *Le Fevre v. State*, 242 Wis. 416, 8 N.W.2d 288 (1943); *State v. Bohmer*, 210 Wis. 651, 246 N.W. 314 (1933).

21. *People v. Becker*, 300 Mich. 562, 2 N.W.2d 503 (1942); *Boeche v. State* 151 Neb. 368, 37 N.W.2d 593 (1949); *People v. Forte*, 277 N.Y. 204, 18 N.E.2d 31, 32 (1938) ("We cannot take judicial notice that this instrument is or is not effective for the purpose of determining the truth"); *People v. Kenny*, 167 Misc. 51, 3 N.Y.S.2d 348 (Co. Ct. 1938); unreported case in Indianapolis in 1924, RICHARDSON, EVIDENCE § 990 (3d ed. 1940). The first civil case to consider the problem, *Stone v. Earp*, 50 N.W.2d 172 (Mich. 1951) followed *People v. Becker, supra*. Wigmore is in accord with this view, 3 WIGMORE, EVIDENCE § 990 (3d ed. 1940).

22. *State v. Lowry*, 163 Kan. 622, 185 P.2d 147, 149 (1947); *State v. Loniello* (1935), *State v. Rowe* (1936), and *State v. Comm* (1941), three unreported Wisconsin cases described in 1943 WIS. L. REV. 430, 435.

Although the decisions do seem to fall into the pattern outlined above, it should be noted that there is very little authority in this field. Moreover, only one reported case has admitted the results of a lie detector examination without a stipulation.²³

Prior to *Stone v. Earp*,²⁴ decided by the Michigan Supreme Court in December 1951, all the decisions which had considered this problem had been criminal cases. As pointed out by the Michigan Court, the introduction of lie detector results in civil cases does not present any greater or different problems than it presents in the criminal courts. In fact, if the admissibility of the lie detector is ever fully accepted in criminal cases, it should follow *a fortiori* that it is admissible in a civil action as there is no problem of self-incrimination.²⁵

The main objection enunciated by the courts to the admission of lie detector examinations has been the alleged lack of scientific recognition, and the doubt in the validity of the diagnosis.²⁶ Since the purpose of such a test is to get at the truth, a pertinent inquiry is whether the accepted methods can be shown to have greater validity.

The average witness steps into court afraid and confused. He is subjected to endless questioning. The cross-examiner sets traps for him, leads him, confuses him, and plays on his fear and confusion. The opposing attorneys sometimes question the witness not with the purpose of getting the exact and complete truth, but with the purpose of leading or trapping the witness into making statements favorable to their side. Or if he has given damaging testimony, the attorney attempts to impeach him by casting doubt upon his character and veracity. The judges and juries habitually and with sanction of law consider and give weight to their interpretation of the witness' demeanor and the changes of appearance, expression, voice, respiration, etc., in passing judgment upon the truth or falsity of his testimony. Obviously, such an interpretation must be a crude and inaccurate one.²⁷

23. *People v. Kenny*, 167 Misc. 51, 3 N.Y.S.2d 348 (Co. Ct. 1938), admitted the results of a pathometer test conducted by Father Summers of Fordham University. For a discussion of pathometer see Summers, *Science Can Get the Confession*, 8 *FORD. L. REV.* 334 (1939).

24. 50 N.W.2d 172 (Mich. 1951). The trial court admitted the results of a lie detector test, on stipulation of the parties; the Michigan Supreme Court held this to be error but not prejudicial because the results favored the defendant, and the plaintiff had failed to sustain his burden of proof.

25. See generally, Sell, *supra* note 4, at 224.

26. "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." *Frye v. United States*, 293 Fed. 1013, 1014 (D.C. Cir. 1923). "The systolic blood pressure deception test for determining the truthfulness of testimony has not yet gained such standing and scientific recognition as to justify the admission of expert testimony deduced from tests made under such theory." *People v. Wochnick*, 98 Cal. App.2d 124, 219 P.2d 70, 72 (1950).

27. McCormick, *Deception-Tests and the Law of Evidence*, 15 *CALIF. L. REV.* 484, 485 (1927).

Contrast with this crude and at times barbaric procedure, the scientific method.²⁸ The witness is questioned by a trained and disinterested examiner. A norm is established for the witness' reactions. Then the physiological and psychological reactions which the judge and jury attempt to observe and interpret are scientifically and accurately recorded and interpreted by an expert. Even though the lie detector is not 100% accurate, there can be no doubt that it is more efficient and accurate than our presently accepted method of eliciting the facts.

In considering the problem of lack of scientific recognition, McCormick reports sending out questionnaires, in 1927, to 88 members of the American Psychological Association. The question asked was whether deception tests measuring reaction time, respiratory changes and blood pressure changes furnish results of sufficient accuracy to warrant consideration by judges and jurors. Of the replies received: (1) 18 answered "yes" with varying qualifications; (2) 13 answered "no"; (3) 7 were of doubtful classification. Not more than 7 of the replies could properly be interpreted as indicating lack of belief in the substantial value of the tests for any purpose.²⁹ At present the results would undoubtedly be more favorable, because there have been 25 years of further experimentation and improvement in the apparatus and technique.³⁰ But even the results received in 1927 indicate a better than 50% acceptance by psychologists.³¹

A further objection has been made that the lie detector would impair the right of cross-examination. This objection is based on a misconception of the method of examination. The machine records physiological changes and does so accurately. No one denies this. In this respect it is exactly like other machines whose results are admitted in evidence, *e.g.*, cameras, X-ray machines,

28. "For hundreds of years our courts have deemed the examination and cross-examination of witnesses in open court to be the best method so far devised for the ascertainment of the truth and have used that method for lack of any better approach. It seems to me that this pathometer and the technique by which it is used indicate a new and more scientific approach to the ascertainment of truth in legal investigations." *People v. Kenny*, 167 Misc. 51, 3 N.Y.S.2d 348, 351 (Co. Ct. 1938).

29. See McCormick, *supra* note 27, at 495-97.

30. See Reid, *Simulated Blood Pressure Responses in Lie-Detector Tests and a Method for Their Detection*, 36 J. CRIM. L. & CRIMINOLOGY, 201 (1945); Reid, *A Revised Questioning Technique in Lie-Detection Tests*, 37 J. CRIM. L. & CRIMINOLOGY 542 (1947).

31. "The comments of some legal writers seem tacitly to assume that the deception tests must be shown not only to be scientifically accepted as evidential or significant, but that they must be demonstrated to be error-proof. But it is apparent that no capacity for anything like a hundred per cent correctness of results is required. The emotional curve is to be admitted merely as circumstantial evidence of a truthful intent or the reverse. If the test results are shown by scientific experience to render the inferences of consciousness of falsity or truth substantially more probable, then the courts should accept the evidence, though the possibility of error in the inference be recognized. The admission of evidence that blood-hounds have followed a trail from the crime to the whereabouts of the accused, of evidence of similarity of foot-marks, and of conduct to show insanity, are all striking examples of the fact that conclusiveness in the inference called for by the evidence is not a requirement for admissibility." McCormick, *Deception Tests and the Law of Evidence*, 15 CALIF. L. REV. 484, 500 (1927).

sphygmomanometer, electrocardiogram, etc. The lie detector does not impair the right of cross-examination any more than do these other instruments.

The results of the lie detector test are of no value to the judge or jury until interpreted by the expert. In the same way, the X-rays, electrocardiograms or symptoms of the disease are of no value until interpreted by the radiologist, cardiologist or doctor. It is at this point that the opposing party is entitled to cross-examination. He may cross-examine the expert on his diagnosis and the reasons therefor.

It has also been suggested that to subject witnesses to a lie detector examination unwillingly borders on the inquisitorial. This is an untenable argument based on the assumption that the witness has a right to lie. Inquisitorial methods seek to force a confession through torture and duress. The third degree used with such success by some police forces is an example of an inquisitorial method. When taking a lie detector examination, the witness is not forced to answer questions, nor is he subjected to prolonged questioning without food or drink. The only purpose of the examination is to determine if the witness is consciously lying. To say that this is inquisitorial is to say that a witness has a right to deceive the court and the jury, and to force them to rely on crude and inaccurate methods in evaluating his testimony.

The weight to be given to the examiner's diagnosis is for the jury to determine. They may accept it, disregard it, or give it merely partial consideration. It is just another type of expert testimony to aid the jury in making its determination of the facts, but in no way does the polygraph invade the province of the jury.³²

One of the most difficult tasks in our entire judicial procedure is that of the jury in its deliberations. It is for this group of 12 untrained laymen to weigh and evaluate all the conflicting evidence and testimony, then decide what are the actual facts. If the jury can be informed by experts that certain witnesses are lying while others are telling the truth, this tremendous task would, of course, be immeasurably lessened, although the ultimate fact finding function would still be left in the hands of the jurors.

In order to make the jury aware of exactly how they are to deal with the testimony of an expert who has administered a lie-detector examination, the court must instruct the jury on its exact function. The following instruction was given by a trial judge in *State v. Loniello and Grignaro*, an unreported Wisconsin case:

32. "Both upon legal principle and sound reasoning, it would seem that the courts if willing to accept and receive handwriting testimony, psychiatric testimony, and other such expert opinion, should also admit in evidence testimony of the pathometer test and the results disclosed thereby when a proper foundation has been laid therefor." *People v. Kenny*, 167 Misc. 51, 3 N.Y.S.2d 348, 351 (Co. Ct. 1938).

"Previous to this trial, each defendant submitted himself to an examination by the Keeler Polygraph. This examination was conducted by Leonarde Keeler, at Portage, Wisconsin, by a proper stipulation between the State and the defendants, and Mr. Keeler was permitted to tell you the results of the examination in question. *This testimony does not tend to show or prove any element of the crime charged. It at most and best only tends to show that at the time of the examination of the defendants they were not telling the truth. Now, Members of the Jury, it is for you to give it such corroboratory weight and effect as you think it fairly and reasonably entitled to receive.*"³³

It must be admitted that the lie detector is not a complete remedy for the ills of false testimony.³⁴ Quite often a witness, because of a lapse of time, the excitement of the incident testified about, or poor memory, gives false testimony without consciously lying. The lie detector will not detect that the testimony of this type of witness is false, because the witness does not have the emotional disturbance caused by fear of detection and therefore the physiological manifestations of lying are not present.

This presents somewhat of an obstacle. Although the same problem of unconscious lying appears under our present system, with a lie detector diagnosis of truth, or at least no conscious lying, the jury is likely to be unduly impressed. This problem does not preclude the admission of lie detector examination. A similar obstacle is presented by blood grouping tests in paternity suits. A blood grouping test can conclusively establish that a man is not the parent of a child; however, it cannot prove that he is, merely that he might be.³⁵ Similarly, the polygraph can establish that a witness is lying, but cannot prove that he is telling the truth, but only that he is telling what he believes to be the truth.

It would be the duty of the court to instruct the jury on the possibility of unconscious lying, and the weight to be given a diagnosis of truth. The following instruction is suggested for that purpose:

"The theory of the lie detector is that it records the physiological manifestations of the emotional disturbance caused by consciously lying. It is possible that a witness may give false testimony, but because of poor memory, lapse of time or the excitement of the occasion, be unaware of the fact that his testimony is false. In such a situation the lie detector will not detect the untruth. Therefore, I must admonish you not to give undue weight to a diagnosis of truth, but to realize that the witness may be unconsciously lying. It is for you, the jury, after considering the witness' demeanor, the entire testimony, and all the evidence, to ultimately determine the truth or falsity of the testimony."

If the results of lie detector examinations are to be admitted in evidence in civil cases, there should be restrictions imposed to avoid abuse of this instru-

33. Quoted in Inbau, *Detection of Deception Technique Admitted in Evidence*, 26 J. CRIM. L. & CRIMINOLOGY 262, 268 (1935) (emphasis added).

34. See generally, Floch, *supra* note 4.

35. Hooker and Boyd, *Blood-Grouping as a Test of Non-Paternity*, 25 J. CRIM. L. & CRIMINOLOGY 187 (1934); Note, 39 CALIF. L. REV. 277 (1951).

ment. The most important restriction is that the examination should be admitted only when given by a trained examiner.³⁶ This examination is based upon delicate physiological reactions, which can be interpreted only by one who understands and is trained in the interpretation of them. To make certain of the accuracy of the diagnosis, the examination should be administered only by persons licensed by the State Board of Medical Examiners.

Whether the lie detector evidence should be admissible in all cases or only upon stipulation of the parties is open to question. From a theoretical point of view, once the validity of such tests is accepted, they should be required and admitted in all cases. This would expedite the detection of deception, and eliminate much of the guesswork in the fact finding process. The law moves by small steps and not gigantic strides. At this juncture, to suggest that lie detectors be employed in all civil cases would be to suggest that we revolutionize entire trial procedure. It might be wiser, therefore, to take the small step first and to allow the tests only when both parties agree.³⁷

If one of the parties refuses to submit to a lie detector examination, both the court and counsel should be free to comment upon this refusal, and the jury should be allowed to draw reasonable inferences therefrom. The district attorney in California may now comment upon a defendant's failure to testify—*i.e.*, present himself as a candidate for lie detection by cross-examination. There can be no reason for refusing to take a lie detector examination, except fear of detection. Therefore, if a party refuses to submit to such an examination, it seems reasonable to doubt his testimony, and his refusal is a fact which will aid the jury in evaluating the witness and his testimony.

It must be concluded that the time has come when courts should recognize more advances made by science. The "triers of facts," attempting to arrive at the truth, should find no justification in not using the most scientific and accurate method devised by man.

CONCLUSION

1. Experience with both the pseudo-scientific "lie detectors" and the scientific "lie detector" is much more general and historical than commonly realized.
2. The lie detector is not infallible, but it is much more accurate than other scientific and medical tests, the results of which are allowed in evidence.

36. Inbau, *Some Avoidable Lie-Detector Mistakes*, 40 J. CRIM. L. & CRIMINOLOGY 791 (1950); Trovillo, *Deception Test Criteria*, 33 J. CRIM. L. & CRIMINOLOGY 338 (1942).

37. This is the position which appears to be taken by Wigmore, although he would seem to limit the use of lie-detectors to criminal cases. "The record of blood-pressure variations of an accused person, made during an interrogation while *voluntarily* submitting to the application of suitable apparatus (polygraph, electrocardiograph, "lie-detector"), is admissible, either to corroborate or to discredit his testimony." WIGMORE, CODE OF EVIDENCE § 967 (3d ed. 1942) (emphasis added).

3. The lie detector has been used principally in criminal investigation. It is available likewise in civil disputes and its results should be employable by the triers of fact under proper instructions.

4. Generally, the results of the most scientific instrument of "lie detection" are not legally available except by stipulation. It should not be misconduct to ask a witness if he will submit to a lie detector, properly operated.

5. The lie detector is valueless without a competent operator.

6. The lie detector cannot supplant cross-examination, nor should it substitute for jury deliberation. It is, however, an adjunct to determine truth, not advantageously employed under present day trial methods.