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A Comparative Analysis of the Admissibility of the Polygraph Test and DNA Test Analysis as Evidence in India and United States of America

ANSHU MAHESWARI¹

ABSTRACT

The Law of Evidence, has changed and updated itself with regards to the technological developments and scientific methods of getting evidence. However, with these developments of technology and science, it is important to understand the characteristics of these developments as evidence, and attribute the value of it being admissible in courts of law of different countries. This paper will aim to understand the nature of certain forms of scientific methods of evidence and its admissibility in courts of law. A comparative analysis of the veracity of such evidence, in the courts of India and United States of America will be provided so as to understand the position of these two countries in admitting or not admitting these forms of evidence in their criminal justice system in particular.

It is important to note that scientific methods of evidence, have been admitted as forms of evidence in courts of law of different countries, over a period of time and with great scrutiny as well. This is not absurd as courts are bound to be sceptical in bringing about such changes, as such admission allows for a plethora of new forms and methods of examining evidence, and thereby attributing guilt in the criminal trials. A main form and reason for such scepticism is due to the relation between the rights of the accused, and the certainty of scientific evidence and the rights of the victim. This shall be further explained and explored in this paper.

The Polygraph Test is popularly known as the ‘lie-detector’ test, and has been romanticised and dramatized in various films across the world, wherein guilt is seen to be attributed on the basis of this test. It works on the theory that people generally get nervous about lying, and his results in variations of heart rate, pulse rate, blood pressure etc.² However, in reality, this isn’t the case. If changes in the rate of breathing, blood pressure and other factors are visible

¹ Author is a student at OP Jindal Global University, India.

²A.S. Dalal & Arunava Mukherjee, *Constitutional and Evidentiary Validity of New Scientific Tests*, 49 JILI 529, 530 (2007).

beyond an extent, then such a deviation is recorded in the Polygraph Test result.³ The Polygraph Test result, in essence is an assessment of graphs by an expert.⁴ In the United States of America, the Polygraph Test was inadmissible for the longest time. In the case of *Frye v United States*, the polygraph test was held to be inadmissible on the basis of it not being a form of evidence that was generally admissible.⁵ On the face of it, such a statement might sound absurd, but when understood contextually, sense can be made out of it. Acceptance of Polygraph Test is a new method, as opposed to other forms of evidence, therefore for it to be acceptable, it must first be deemed as a reliable source. The reliability of evidence is on the basis of three factors namely, the validity of the underlying principle, the validity of the technique of application and the proper application in a given set of circumstances.⁶ In the *Frye v. United States* case it was said, “ Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Some- where in this twilight zone the evidential force of the principle must be recognized, and while the 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.”⁷ What this statement is suggestive of, is that if a form of evidence, is of an ‘experimental’ nature, then its reliability to be construed as evidence, as mentioned above, diminishes. In the case of *United States v. Piccinonna*⁸, it was held that polygraph test results are admissible 1) when the parties stipulate to admissibility before the test or; 2) when the polygraph results are used to impeach or corroborate the testimony of a witness.⁹ The test mentioned, is something that I find interesting. The first factor is indicative of an agreement of the parties to allow the test to take place, which is interesting as parties mutually are allowing themselves to be under the scrutiny of a new form of evidence, that isn’t mandated by the court of law itself. This shows the progress of the law of evidence being accommodative of new scientific developments, without it being made a compulsion. The landmark judgement in the United States of America, pertaining which solidified a step towards the acceptance of scientific evidence as evidence, was the case of *Daubert v. Merrell*

³ Dalal, *supra* note 1.

⁴A. Raghunandha Reddy, *From Jurisprudence to Jurimetrics: A Critical Evaluation of the Emerging Tools in the Judicial Process*, 51 JILI 92, 100 (2009).

⁵ *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

⁶ Paul C. Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later*, 80 COLUM. L. REV. 1197, 1200-01 (1980).

⁷ *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

⁸ *United States v. Piccinonna*, 885 F.2d 1529 (11th Cir. 1989).

⁹ 262. *Polygraphs-Introduction at Trial*, The United States Department of Justice (2020), <https://www.justice.gov/archives/jm/criminal-resource-manual-262-polygraphs-introduction-trial>.

Dow Pharmaceuticals Inc.¹⁰ In this case, it was held that scientific, technical or other special knowledge can be used as assistance in order to understand existing evidence, or determine a fact in issue.¹¹ However, this doesn't imply that the standard of 'reliability' was dissolved in this case. In this case, specific criteria were laid out for judges to admit scientific evidence which are as follows; 1) whether the scientific technique can be and has been tested, 2) whether the technique has been subjected to peer review, 3) the known or potential rate of error of that theory, 4) the existence and maintenance of standards controlling the technique's operation, 5) the technique's degree of acceptance within a relevant scientific community.¹² This test is interesting as it aims to demonstrate that though the courts may be open to admitting scientific techniques and forms of evidence.

There was a subsequent change made in 1993, by the Supreme Court of the United States of America through Rule 702 of the Federal Rules of Evidence according to which expert testimony cannot solely be excluded because it's based on a theory that hasn't acquired 'general acceptance' yet.¹³ It is important to note that neither the United States Code nor the Federal Rules of Evidence have a specific provision pertaining to the admissibility of the results of the Polygraph Test.¹⁴ The Military Rule of Evidence 707(a) bars the admissibility of Polygraph Test results and subsequently, it was struck down as unconstitutional in the United States Supreme Court of Appeals for the Armed Forces.¹⁵ Through this, it can be said that The Polygraph Test, hasn't gained utmost reliability in the United States and its admissibility is not always certain and is prone to high scrutiny in terms of its reliability as a form of evidence.

In India, The Polygraph Test, wasn't previously seen as a violation of Article 20(3) of the Indian Constitution, as in these tests, the person being tested is not under a compulsion to make any statement, therefore, it is not self-incriminating as prohibited under the Article.¹⁶ Moreover, there is no direct invasion of the body and the result is merely a graph of certain physiological reactions which cannot be construed to be a statement under Article 20(3).¹⁷ However, in the landmark judgement of *Selvi v. State of Karnataka*, it was held that narco-analysis, the lie-detector test and brain mapping violates the right against self-incrimination

¹⁰ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, (1993)

¹¹ *Id.*

¹² *Id.*

¹³ 262. *Polygraphs-Introduction at Trial*, The United States Department of Justice (2020), <https://www.justice.gov/archives/jm/criminal-resource-manual-262-polygraphs-introduction-trial>.

¹⁴ 262. *Polygraphs-Introduction at Trial*, The United States Department of Justice (2020), <https://www.justice.gov/archives/jm/criminal-resource-manual-262-polygraphs-introduction-trial>.

¹⁵ *Id.*

¹⁶ INDIA CONST. art. 20, cl. 3.

¹⁷ Dalal, *supra* note 1, at 534.

of the accused and Article 21 as well.¹⁸ In this case, the power dynamics between the authority and the accused were balanced with whether or not Section 45 of The Indian Evidence Act deals with when an expert may be called upon, and 'science' is one of the broad, stipulated situations that is acknowledged.¹⁹ Therefore, the results of a Polygraph Test, being an examination of graphs and charts, comes under the purview of this section.

The main difference between the United States of America's and India's examination of expert evidence is that it is confined to his credibility and qualifications, whereas in the United States, the degree of evaluation is greater and are more towards reliability. According to me, the standard adopted in Daubert, is one that is correct and is essential in today's world, where there is an abundance of new scientific techniques. Therefore, to scrutinize these techniques, without 'evidence' losing its value, is integral to protect its sanctity. In a criminal trial, without the technique passing the Daubert standards, the element of 'proving beyond reasonable doubt' will be compromised, which cannot happen. The Daubert standard is correct also because it doesn't negate the admissibility of scientific evidence such as The Polygraph Test altogether. Rather, it allows it with scrutiny which is a better standard than that adopted in the Selvi case which altogether renders The Polygraph Test or the lie-detector inadmissible.

The second form of evidence that will be analysed is the famous 'DNA Test.' The DNA Test, in the scientific world and its assistance in criminal trials, is seen as one of the most accurate and reliable forms of scientific techniques of evidence evaluation. It is one of the most significant advancements in criminal investigation, after the advent of the fingerprint identification.²⁰ DNA analysis is commonly used as a method to eliminate persons as suspects, or convict persons for their crimes if their skin tissue, hair and semen are found.²¹ When I say convict persons, what I mean is that the circumstances found upon analysis of the DNA Test, can be used to convict a person. For instance, if the semen of the accused is found on a rape victim and the DNA test verifies this, then it can be used as an aid to convict the person. What the DNA test doesn't state is whether the element of 'force' was there or not, to distinguish it from consensual sex. Therefore, the test results will be looked at with other surrounding facts and circumstances, to prove the element of lack of consent to convict the person. The DNA test helps to draw out links and connect circumstances, by which a

¹⁸ Selvi v. State of Karnataka, A.I.R 2010 S.C. 1974 (India).

¹⁹ The Indian Evidence Act, 1872, No. 1, Acts of Parliament, 1872 (India).

²⁰ Subhash Chandra Singh, *DNA Profiling and the Forensic Use of DNA Evidence in Criminal Proceedings*, 53 JILI 195, 195 (2011).

²¹ *Id.*

criminal trial can be assisted deeply. It is important to understand that the DNA Test is in essence, another technique of scientific evaluation and it can in no way prove the mens rea or the intent of a person to commit a crime, and an expectation for it to do so, is absurd according to me. I think that the greater role of the DNA test is that of narrowing potential suspects, proving the innocence of those who have been falsely accused of a crime. The admissibility of the DNA technology has far greater acceptance, and reliability in criminal justice systems across the world, as opposed to the Polygraph Test which has little reliability and is looked at with scepticism.

In India, the DNA test results are used very often in the criminal justice system and have proven to be an essential aid in investigation and trial. It is important to note that Section 53 and 54 of the Code of Criminal Procedure, 1973 specifically address DNA tests.²² According to these sections, two situations are stipulated. In Section 53, the police officer may request a medical practitioner to conduct the DNA Test, if he feels that it can amount to evidence for the particular offence.²³ Section 54 stipulates a scenario wherein the accused person may request for a DNA Test, in order to solidify the proof of his innocence. The two-fold application of the DNA Test can be seen i.e. to prove innocence, and gain probable evidence to establish the commission of a crime by the accused. Both of these aspects are essential, as they symbolize the balance between the two prongs of the Indian criminal justice system wherein, the rights of the accused are balanced with fact finding through investigation. Section 53-A was subsequently introduced by the amendment to the Code of Criminal Procedure, which states that in a person who is accused of rape, is compulsorily required to undergo a DNA Test.²⁴ This according to me, is an enabling provision so as to ensure that the crime of rape, which is tremendously difficult and controversial to prove, has a strong medical basis in the form of a DNA Test as evidence, to highlight the true scenario. Like the Polygraph Test, the DNA Test also comes within the purview of Section 45 of the Indian Evidence Act, 1872 since it is the expert i.e. the medical practitioner that interprets the sample, and provides the result to the court by interpreting the test results.²⁵ An interesting interpretation of the DNA Test was drawn out with relation to the right of privacy of an individual, in the case of Rohit Shekhar v. Narayan Dutt Tiwari.²⁶ In this case, it was said that depending on the circumstances of each case, mandatory testing would be governed by a number of factors such as compelling interest, a probable cause and decreased expectations of

²² The Code of Criminal Procedure Act, 1973, No. 2, Acts of Parliament, 1973 (India).

²³ *Id.*

²⁴ The Criminal Law (Amendment) Act, 2005, No. 2, Acts of Parliament, 2006 (India).

²⁵ The Indian Evidence Act, 1872, No. 1, Acts of Parliament, 1872 (India).

²⁶ Rohit Shekhar v. Narayan Dutt Tiwari, 9 2011 SCC OnLine Del 40 (India).

privacy.²⁷ What the court in essence stated in this case, was that if there is a legitimate aim, or a pressing social need, then such violation of privacy can be permitted.²⁸

In the United States, the DNA analysis and test results in a criminal trial, like all other evidence has to satisfy the test of admissibility in effect in a particular jurisdiction.²⁹ The two tests i.e. the Frye Test and the Daubert test have been used to ascertain whether any scientific evidence, in this case, the DNA test analysis is admissible as evidence or not. The case of *People v. Castro*³⁰ deals with the admissibility of the DNA test in particular. It held that, DNA identification theory and practice are generally accepted among the scientific community, which essentially implies that it meets the ‘general acceptance standard’ encompassed in the Frye Test.; the technique of DNA identification is one that is accepted by the scientific community; pretrial hearings must determine whether the laboratory’s methodology adopted for the test, was in accordance with the scientific standards.³¹ This test, according to me, is an extension of the principles of Frye and Daubert, specially designed and suited for the DNA identification test.

As previously mentioned, that it is not absurd to view scientific evidence with scrutiny. The two tests analysed for the purview of this paper i.e. The Polygraph Test and the DNA Test, are both scientific techniques and methods of evidence examination, however, the reliability attributed to the two are different, both in India and the United States. This is due to the veracity that these scientific methods individually possess. As seen above, the polygraph test was rendered as violative of the Indian Constitution, and it is looked at with utmost scrutiny in the United states. this is because of the very nature of the test itself, as it based on ‘reactions’ and doesn’t provide concrete proof. The DNA Test on the other hand, has wide applicability as is admissible as evidence with some degree of scrutiny, due to its nature of being unique and providing a concrete result, if done properly. Scientific methods in the Law of Evidence are constantly evolving, and to blindly render them admissible or inadmissible just because it is ‘science’ would be absurd. This brings me to the thesis of Arvindeka Chaudhery, which I totally oppose. As a part of the thesis, the author claims that scientific evidence must be accepted by Indian courts so that the victims get the widest possible sympathy, care and attention.³² Her thesis is entirely victim centric and states that the

²⁷ Gautam Bhatia, *State Surveillance and the Right to Privacy in India: A Constitutional Biography*, 26 Natl. Law Sch. India Rev. 127, 152-53 (2014).

²⁸ Rohit Shekhar v. Narayan Dutt Tiwari, 9 2011 SCC OnLine Del 40 (India).

²⁹ Singh, *supra* note 18, at 203.

³⁰ *People v. Castro*, 545 N.Y.S. 2d 985 Sup Ct. (1989).

³¹ Singh, *supra* note 18, at 204.

³² ARVINDEKA CHAUDHERY, ADMISSIBILITY OF SCIENTIFIC EVIDENCE UNDER INDIAN

criminal justice system works in accordance to the rights of the accused and forgets the rights of the victim.³³ This however, is an absurd claim as the rights of the accused and the rights of the victim are always balanced in the Indian justice system. If the accused is put to such unreasonable scrutiny, by exposing and mandating him to be analysed by scientific methods that aren't reliable, then the whole point of delivering justice fails. Scientific evidence are developments and advancements, but they get their legitimacy only if they are reliable. Without such reliability, I do not think that scientific evidence must be admissible. I feel that the test for admissibility for scientific evidence, across all common law countries must be of a similar standard in order to obtain universality. Moreover, I feel that the Daubert test is correct and essential but a pre-requisite must be added to it. This pre-requisite must be that of 'degree of manipulation and tampering.' If such technique can be easily manipulated and tampered with, and can produce different and uncertain results, then it must not be regarded as evidence.

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