

---

**INTERNATIONAL JOURNAL OF ADVANCED LEGAL RESEARCH**

---

**SCIENTIFIC TESTS AND THEIR ADMISSIBILITY IN INDIAN  
CRIMINAL JUSTICE SYSTEM**- Sandeep Rana<sup>1</sup>**ABSTRACT**

Scientific evidence is characterised as evidence brought before the courts that has been obtained via scientific testing or investigation whereas criminal trial is the mechanism through which the penalty for offences is determined. It's a well-known fact that the criminal justice system in our nation is a time-consuming and complicated procedure. Article 20(3) of the Indian Constitution, discusses the relevance of self-incrimination. According to the legal concept of "*nemo tenetur prodere accusare seipsum*", no one is required to accuse oneself in a criminal proceeding. Any comment that may result in the accused being subjected to criminal charges, either now or in the future, is strictly banned under the Constitution. The legitimacy & usefulness of scientific evidence, which is progressively being employed in the court of law, are discussed in this paper. The old system of evidence, particularly in criminal cases, is becoming less and less reliable day by day because of a variety of variables. This paper is concerned with the necessity to address difficulties pertaining to the admission of experimental findings in the event that there are any doubts about its validity. Expert testimony is important in contemporary law, and expert evidence may be critical in determining the result of a judicial action. It is considered necessary to interpret the various areas of Indian legislation in light of the changing conditions in India, the growth of crime and offenders, the progress of technology, and other factors. Those who have suffered a crime should not be denied compensation just because the laws of India are centuries old and do not clearly identify the most recent crimes committed. This research paper focuses on

---

<sup>1</sup> LL.M. Candidate at Chandigarh University

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

the approach of the Indian law to the acceptance of evidence collected using scientific and technological procedures and techniques.

**Keywords-** *Scientific evidence, mechanism, self-incrimination, legitimacy, provisions, legislation and etc.*

## **INTRODUCTION**

Science and technology play an important role in modern civilization, and they have resulted in the ease and comfort in human existence from quite a long time. Furthermore, evidence gathered via scientific procedures and methodologies has yet to find a definite and decisive place in court cases in India. Courts in India have yet to embrace this methodology, as judgments and proceedings in India rely on circumstances and facts of their respective cases. India, like every other civilized civilization, developed a criminal justice system. Circumstances which are in relation with political and socio economic scenarios and have existed throughout India's history shaped its development. As a result, the goals of criminal justice and the means by which it is governed have evolved throughout time and from one era to the next. In order to adapt dynamic culture, law framers developed new ways and procedures for implementing the legal provisions and render justice.<sup>2</sup>

Law is dynamic rather than static, and as a result, as society changes, the law must change in order to keep up with the shifting social order. Law is a tool for social change, and the court is tasked with the obligation of interpreting the law in the interests of the public interest. Because of this, it is apparent that the judicial intellect must keep up with and maintain pace with the evolution of humankind in order to function properly.

## **ACCEPTANCE OF SCIENTIFIC EVIDENCES IN INDIAN LAW**

In India, the existing laws are based on the approach and legal principles of Britishers who once dominated the country under the Crown. Indian Evidence Act 1872 is the legislation which deals

---

<sup>2</sup>V. R. DINKAR, SCIENTIFIC EXPERT EVIDENCE: DETERMINING PROBATIVE VALUE AND ADMISSIBILITY IN THE COURT ROOM 47 (Eastern Law House, 2016).

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

with admissibility of evidence.<sup>3</sup> In India, the opinion of scientists is only significant because of Section 45 of the Evidence Act, and the question of its reliability is totally dependent on the court, who is the final adjudicator. Scientific evidence is generally seen as having just an advising value in Indian courts. Section 45<sup>4</sup> of the above-mentioned act expressly talks about acceptance of finger prints, samples of handwriting and etc. Before considering it as an evidence Court welcomes the opinion of skilled persons of the concerned scientific field. As soon as the experts give the nod to the scientific evidences and Court gets satisfied, the evidences become admissible and treated as relevant facts. But at last, discretionary power lies in the hands of judge. It's up to him whether to consider expert's opinion or not.

The identification of the dead victim in the *Nitish Katara* murder case<sup>5</sup> was complicated by the fact that just a little part of one unburnt palm with fingers was available for examination. In this case as well, DNA profiling assisted in identifying the body remains by matching the DNA profile with the DNA profile of the deceased's parents, which allowed the High Court of Delhi to affirm the accused's conviction.

In *Sushil Mandal v. The State*<sup>6</sup>, which was represented by the CBI, the petitioner, who was the father of the dead kid, contested the results of DNA profiling in a case brought by the father of the deceased boy. It was discovered that the dead boy was on the verge of developing a mutual attraction to a schoolgirl, and the school administration encouraged the parents of both students to keep an eye on their children. Several days later, the youngster was reported missing, and a week later, a totally decomposed, unidentifiable corpse was recovered from a lake. The petitioner stated that the body remains and clothing belonging to his lost son had not been identified. He filed a habeas corpus petition at the high court, charging the girl's father and pleading with the high court to order the Central Bureau of Investigation to conduct an investigation (CBI). The

---

<sup>3</sup>PRATYUSHA DAS, FORENSIC EVIDENCE: ADMISSIBILITY IN CRIMINAL JUSTICE SYSTEM 34 (Eastern Law House, 2019).

<sup>4</sup> Section 45 of the Indian Evidence Act 1872

<sup>5</sup> Vishal Yadavv. State Of U.P, LQ/DELHC/2011/978.

<sup>6</sup> Sushil Mandalv. State of Jharkhand, 2017 (4) AJR 170.

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

DNA test of the deceased's corpse was found to be compatible with the genetic profiles of the deceased's parents (the petitioner and his wife), according to the findings. The skull superimposition test also confirmed the existence of a relationship between the dead and the recently retrieved corpse. However, petitioner refused to accept the reality revealed by these scientific tests on the basis of one or more pretexts, despite the fact that the DNA test was repeated until he was completely satisfied. When it came to human identity, the Supreme Court relied on scientific findings, including DNA profiling. The case was thus concluded.

Scientific evidence in Indian legal scenario is only limited to its advising value. Till now no endeavors have been put by the courts in India for setting up guidelines and rules regarding acceptance of scientific evidences. Supreme Court of India often faces different types of questions when paternity of any person is concerned and traced by DNA test. In India no legislation deals with the acceptance and admissibility of DNA reports in the matters of paternity and this is the reason Indian courts become incapable in accepting DNA reports as evidence and rendering justice. Police investigation play a crucial role in delivering justice to the victims and punishing offenders. It is nothing but heart and soul of criminal justice system in India. As soon as an offence gets reported and it comes into the knowledge of a police officer, it becomes the duty of police officer to conduct fair investigation by procuring evidences from facts and circumstances and present them before Court. The court after scrutinizing every evidence and the report prepared by the police officer decides whether the accused is liable or not. Presentation of case before the honorable court in an unbiased manner and gets the offender punished for the wrongs is the sole responsibility of police.<sup>7</sup>

Central police organization which runs under the Union Government is responsible for vigilance, procuring information, investigation and to provide assistance to the police forces of different states in various situations like security of aristocrats, conducting elections and catastrophic

---

<sup>7</sup>Abhiraj Singh, *Admissibility and relevancy of expert evidence legal service India - law, lawyers and legal resources*” LEGAL SERVICE INDIA, (Dec 18, 2021, 8:55 PM),

<https://www.legalserviceindia.com/legal/article-1205-admissibility-and-relevancy-of-expert-evidence.html>

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

situations. Police agencies which operate under the Union Government play major role in serving criminal justice system in India by providing assistance to state police forces whenever needed.<sup>8</sup>

### **SCIENTIFIC TESTS UNDER CRIMINAL JUSTICE SYSTEM**

*The Narco-Analysis test* is the psychological evaluation in which a substance called sodium pentothal is administered into the blood stream of a person and the patient's condition is monitored during the test. As soon as the drug is administered the patient starts getting into the state of dissociation and loses the nexus between his original identity or character and his awareness.

In this technique, the patient does not refrain himself from saying, admitting or confessing anything, which he cannot do in a conscious state. All inhibitions of the patient it gets vanished in this stage, as a result of which he opens up in front of medico legal team.<sup>9</sup>

*The Lie Detector test* evaluates possible normal changes induced by autonomic nervous system at the time of interrogation. This scientific technique is also called as lie detector test or sometimes psychophysiological detection. In this test a device is used which monitors and feeds all the physiological activities taking place in the human body. The device records pulse rate, skin conductivity, breathing style and blood pressure at the time the patient is getting interrogated for the crime he committed. Modifications and changes that occur in autonomic nervous system cannot be controlled by any person and whenever a person tries to provide any

---

<sup>8</sup>Joseph Peterson, *The Role And Impact Of Forensic Evidence In The Criminal Justice System*", 215 INDIAN JOURNAL OF FORENSIC MEDICINE & TOXICOLOGY, 219 (2010).

<sup>9</sup>Niranajana Rajalakshmi, *what is a narcoanalysis test ?*THE WIRE SCIENCE,(Dec 18, 2021, 8:55 PM)

<https://science.thewire.in/the-sciences/narcoanalysis-test-sodium-thiopental-hathras-case-gaba-anaesthesia-ethics/>.

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

false information and mislead the medico legal team, changes in autonomic nervous system start taking place.<sup>10</sup>

Polygraph is a type of instrument which feeds distinguished pulsations and the pulse rate at the same time. As per an encyclopedia based on Science and Technology, polygraph is a gadget design to detect an instinctive physiological reaction which majority of people have while speaking lies, but never when speaking in true sense.

***Electro-magnetic Brain Mapping test*** is the type of scientific technique include images, text, sounds or words eliciting out the attributes of the offence are displayed on a screen linked to a computer and from computer to the suspect along with other unimportant information which stands reasonable for an innocent person.

Brain waves are developed by the things which are only familiar to the person who who was involved in the crime.

### **LANDMARK CASES ASSOCIATED WITH SCIENTIFIC AND FORENSIC TECHNIQUES**

*Goutamkundu v. State of West Bengal*<sup>11</sup> is the first case, in which it was held that court should consider the validity of DNA TEST, but court didn't accept its validity as it follows the Section 112 of Evidence Act 1872 interpretation that paternity always favors the married persons. Also in *Sharda v Dharampal*,<sup>12</sup> the Supreme Court of India observed that the courts can't force any person or the authority to undergo medical examination. Also if some person did not accept to go for medical examination then court will observe that he /she is liable under section 114 of Indian

---

<sup>10</sup>Joydeep Bose, *Polygraph test can only be conducted with consent of the accused*, THE HINDUSTAN TIMES (Dec18, 2021,8:23PM),

<https://www.hindustantimes.com/india-news/polygraph-test-can-only-be-conducted-with-consent-of-the-accused-karnataka-hc-101615972372932.html>.

<sup>11</sup>Goutamkundu v. State of west bengal, 1993 AIR 2295,

<sup>12</sup>Sharda v Dharampal, AIR 2003 SC 3450

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

Evidence Act 1872. There are many cases where court refused a person to go for medical examination against his wish like in *Kamtidevi & anr v. Poshi Ram*.<sup>13</sup>

In 2014 Supreme Court of India, considered the advancement in the science and technology and passed a major judgment, that is *Nandlal Vasudeo Badwaik v. Lata Nandlal Badwaik*,<sup>14</sup> the court said that “its high time for Indian judiciary to understand the importance of the science and its growth and not to apply Section 112 of Indian Evidence Act 1872 over it, though unmarried persons are out of the ambit of section 112 of Indian evidence act, so it become easy for court to check DNA for them.” In *Narayan dutt v. Rohitshekhhar*,<sup>15</sup> court gave a landmark judgment to pass order of DNA TEST on Indian politician, so that it can be found out that petitioner is son of him. In 2010 lie detector tests, electro-magnetic tests, brain mapping tests and narco analysis test was common in use, but big thanks to our constitution of India that's is our fundamental rights we talk about personal liberties and equality we give so much focus on them and all the protection to the accused. There are many countries that talks about rights or prisoners and provisions regarding their arrest and custody, India to talk about it in Article 20(3)-Right against self-incrimination. This research paper has been in so much talk in recent times due to the custodial torture, torture by the police to get confession or to get clue about any issue, also to find about the weapons or hazardous instruments used in criminal activity, legal and illegal. Sad part is that those custodial torture has been resulted in deaths of the accused, which is the highest violation of the human rights of accused. We still follow the colonial method which is used as third degrees torture, police uses this method to find out confession. Proper training and use of scientific method, can help our Indian police to get better results.<sup>16</sup>

### **SCIENTIFIC EVIDENCE IN INDIAN LEGAL SCENARIO**

---

<sup>13</sup>Kamti devi & anr v. PoshiRam, 2001 5 SCC 311

<sup>14</sup>Nandlalvasudeobadwaik v. Lata NandlalBadwaik, (2014) 2 SCC 576

<sup>15</sup> Shri Rohit Shekhar v. Shri Narayan DuttTiwari & another, LQ/DELHC/2010/2784

<sup>16</sup>Amitai Etzioni, *DNA tests and databases in Criminal Justice: Individual rights and the common good*, 228 MIT PRESS 231 (2004).

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

The use of scientific techniques by law enforcers and experts in the courtroom to fight crime is becoming more common, since technology is constantly being used to perpetrate more complex crimes. Technology-enhanced programs, monitoring systems, and other instruments must be implemented by the criminal justice system in order to keep the community safe and safeguard humankind. It is incredibly difficult for investigative authorities to detect criminality when there is no direct proof available. At the very least, the court should have allowed for the use of scientific methodologies in blind situations. Except for a few small developments, no substantial developments have occurred, neither on the side of the legislature nor the Apex Court, to put some dynamism into the sectors of criminal investigation and judicial proceedings by building the basis for scientific evidence admission. However, no one can deny that science has yet to secure the place in India's legal system that it so richly deserves. As a result, significant efforts must be taken by India's legislatures and judiciary, as well as, most significantly, the scientific community, to advance scientific methodologies and practices to the point where science's credibility can be maintained above a shadow of a doubt.

Police in this country is not only required at the time of investigation of any crime but also before the occurrence of any offence. But now it's too late as common citizen in this country do not have much trust when it comes to police and other enforcement agencies.

In the landmark case of *Selvi v. State of Karnataka*,<sup>17</sup> constitutional validity of Narco analysis test, Polygraph test and Electromagnetic brain mapping test was challenged on the ground that these tests violate fundamental right of an individual as mentioned under Article 20(3) of the Indian Constitution.

It was argued that these tests if conducted without permission of an accused, will act as evidence against himself, and this also stands contrary to the Right to Dignity mentioned under Article 21.

The apex court accepted this argument and pondered over the danger of higher possibility of the police pressurizing accused to take above mentioned tests, and finally held that these tests i.e. Polygraph test, Brain mapping test, Narco Analysis test, if taken without the consent of accused

---

<sup>17</sup>Selvi v. State of Karnataka AIR 2010 SC 1974

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

will be unconstitutional and violative of Article 21 and Article 20(3) of Indian Constitution. The day this landmark judgment was passed by the apex court, all such tests are prohibited if taken without the consent of an accused.

Still only few small developments have taken place and there lies a dearth of substantial developments. After this case neither the apex court nor the legislature ever tried to enhance the condition of admissibility of scientific evidences in criminal justice system.<sup>18</sup>

## **CONCLUSION**

After the landmark case of *Selvi v. State of Karnataka*, the arguments behind Narco-analysis, Polygraph, and Brain mapping tests have been overlooked by the court. The court failed to consider the difficulties that the investigative agencies experience in resolving criminal cases. If every investigative instrument is deemed to be in violation of Articles 20 (3) and 21, then police have to try other erring and antisocial methods of custodial violence on offenders. A push to adopt new scientific techniques for criminal investigation is the need of an hour now. The court, on the other hand, was supposed to cooperate in such a situation. Although the importance of scientific evidence in court is rising, investigators cannot totally depend on the evidence at this time. The reason for this is that there is a great likelihood of the evidence being tampered. Even if the examiner is a little sloppy when it comes to gathering evidence, it is still a problem. It is not possible to produce it in a court of law. There are several forensic law instances that have been brought to light.<sup>19</sup>

Forensic evidence is currently being considered as decisive evidence in Indian courts, which is still in the course of being established. However, we cannot rule out the possibility that it may be considered as concrete evidence in incidents such as Nirbhaya. In "*Selvi v State of Karnataka*", scientific evidence played a key role. It is incredibly difficult for investigative authorities to discover criminality when there is no definite proof available. The accused's rights and liberties

---

<sup>18</sup>B. B. NANDA & R. K. TEWARI, "FORENSIC SCIENCE IN INDIA: A VISION FOR THE TWENTY-FIRST CENTURY" (NEW DELHI : SELECT PUBLISHERS, 2001).

<sup>19</sup>ANDRE A. MOENSSENS , "SCIENTIFIC EVIDENCE IN CRIMINAL CASES" (Foundation Press, 1986).

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

have been considered in court. The victim and society as a whole have received little attention. Criminals are encouraged by such decisions. They are breaking the law every single day. In order to commit crimes, they use advanced methods. They don't leave any evidence of their wrongdoing. As a result, they are seldom imprisoned. The use of new technology in criminal investigation should be permitted by the courts as there will be no wonders in blind circumstances.

### REFERNCES

Black, B., 1988. Evolving legal standards for the admissibility of scientific evidence. *Science*, 239(4847), p. 1508.

Chatterjee, I., 2012. *Techno-legal aspects of Scientific Evidence*. 1st ed. Allahabad: Central Law Publications.

Dinkar, V., 2015. Admisibility Of Scientific Evidence Under Indian Laws In Criminal Justice System Of India. *International Journal of Forensic Science Pathol.*, 3(2), pp. 79-84.

*Goutamkundu v. State of West Bengal* (1993) All India Reporter.

H.Zaidi, S. K. K. a. M., 2008. *Narcoanalysis, Brain Mapping, Hypnosis and Lie Detector Tests in Interrogation of Suspect*. Allahabad: Alia Law Agency.

*Kamti devi & anr v. Poshi Ram* (2001) All India Reporter.

*Nandlal Vasudeo Badwaik v. Lata Nandlal Badwaik* (2014) All India Reporter.

Pratap, C., 2015. *Scientific Evidence in Criminal Investigation*. CTC Publications Private Limited, Chennai, p. 75.

*Sharda v. Dharmpal* (2003) All India Reporter.

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

For general queries or to submit your research for publication, kindly email us at [editorial@ijalr.in](mailto:editorial@ijalr.in)

<https://www.ijalr.in/>

© 2021 International Journal of Advanced Legal Research