

Systemic Challenges in Criminal Justice: Investigation, Scientific Evidence and Constitutional Safeguards in India

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Abstract

By looking into crimes, punishing criminals, and defending individual rights, India's criminal justice system aims to uphold social order and guarantee justice. However, there are a number of procedural and structural issues with the system that pertain to court review, prosecution, evidence gathering, and inquiry. The nature of crime and the techniques needed for efficient law enforcement have both changed as a result of rapid technological improvements. When it comes to dealing with sophisticated criminal activity, traditional investigation methods that mostly depend on eyewitness testimony and confessions are becoming less and less effective. This study looks at how the Indian criminal justice system is increasingly using scientific investigative methods including brain mapping, narco-analysis, and polygraph exams. The paper examines their practical implementation issues, constitutional legitimacy, and evidential value. The conflict between scientific research and fundamental rights including the right to privacy and the right against self-incrimination is given special attention. The study examines legislative provisions, court rulings, and academic literature using a doctrinal research approach in order to determine the legal standing of these methods. The study comes to the conclusion that although scientific evidence may greatly improve the effectiveness of criminal investigations, its application needs to be strictly controlled to guarantee adherence to human rights norms and constitutional protections.

Keywords: Criminal justice system, forensic science, narco analysis, polygraph test, brain mapping, scientific evidence, constitutional law.

1. Introduction

Constitutionally speaking, 'criminal justice administration' is an area which is reserved for the States.¹ Malimath Committee in its Report has very beautifully summed up this journey from no criminal law in the uncivilised society to the present times where the maintenance of law and order is looked after by the State.

India follows the adversarial system of trial, where the burden to prove the guilt of the accused is on the prosecution. The standard of proof is that of 'beyond reasonable doubts'. The foundation of a

¹ K.N. Chandrashekhara Pillai, R.V. KELKAR's CRIMINAL PROCEDURE, CXXXII, (2011).

successful trial is an efficient and unbiased investigation.² When a crime is committed, it is reported to the police, though the police can suo-motu take cognizance of a crime also. The Investigating officer (IO) goes to the crime scene, collects evidence from there sends any evidence which needs scientific analysis to the Forensic Science Laboratory (FSL), and preserves other evidence safely to be presented in the court during trial. He then interrogates the accused or suspects, and collects evidence about their possible role in the crime.

Initially, the investigating agencies and the courts placed heavy reliance on the evidence of eye-witness to the crime. It was seen that eye-witness would often turn hostile as they were lured with money or were threatened of dire consequences if they did not change their statement. Thus, eye-witness testimony lacked consistency. Also, since the State is more powerful than the individual, there has always been a fear of State authorities using force and third-degree methods thereby compelling the accused and suspects to testify against them.

The society is undergoing a fast-paced change. From being a British colony, India has become an independent democratic republic. The present-day villages are not the same as they used to be at the time of independence. There has been a revolution in each and every field of life, and society is growing urban from rural. The technological advances know no limit. The present age of the internet has revolutionised the world. Life is no more the same.

1.1 Statement of Problem

The fundamental principle in criminal trials is ‘to prove the case beyond reasonable doubt’. To ensure justice, it is necessary that each case is properly investigated and is subjected to a fair trial. A criminal case is built on the edifice of evidence admissible in law, whether direct or circumstantial. Courts, however, tend to place heavy reliance on direct evidence, and try to gather statements of eyewitnesses, thereby ignoring other forms of evidence. Our excessive dependence on direct evidence, which in many cases turns out to be scanty or unreliable is the prime reason because of which the prosecution fails. However, the modus operandi adopted by offenders for the commission of crimes has also changed with the development of new technologies but there is still reluctance to the use of new technologies for crime investigation. What is more tragic is that even after forty-three years of passing of the 42nd Amendment act, 1976, which casts a fundamental duty upon every citizen of India to develop scientific temper vide Article 51A (h). The functionaries of criminal justice system do not appear to be fully committed to applying the principles of forensic science in aid of investigation, prosecution, and trial of crimes.

1.2 Literature Survey

The Law Commission of India, in its 180th Report³ examined whether the ‘right to silence’ provided under Article 20(3) needed to be amended? The Committee suo-motu took the subject into consideration in the light of developments in United Kingdom and few other countries. The Commission considered if the right to silence should be diluted at the stage of interrogation and in criminal trials. The Commission suggested that if corresponding changes are made in the ‘right to silence’ in India, it would be ultra vires Articles 20(3) and 21 of the Constitution of India. The

² Section 2(h), Cr PC, defines investigation as, ‘investigation includes all proceedings under this code for the collection of evidence conducted by a police officer or by any other person (other than a magistrate) who is authorised by a Magistrate in this behalf.’

³ Law Commission of India, 180TH REPORT ON ARTICLE 20(3) OF THE CONSTITUTION OF INDIA AND THE RIGHT TO SILENCE (May 2002).

Commission thus recommended that no changes need to be made in the existing right to silence.

The Malimath Committee⁴ appointed by Ministry of Home Affairs, Government of India, in November, 2000 examined the existing framework of criminal jurisprudence and the related constitutional aspect. The Committee noted two major problems that the criminal justice system is facing today, namely, huge pendency and low conviction rate and low disposal rate of the criminal cases particularly the serious offences. It suggested reforms to improve the ‘criminal justice system’ of India including the introduction of forensic science methods from the beginning of the investigation process. However, till date much literature does not exist about their use in the investigation, prosecution, and, trial.

The Madhava Menon Committee⁵ was appointed by the Ministry of Home Affairs, Government of India, in May 2006 to draft a ‘National Policy on Criminal Justice’. The Committee submitted its Report in July 2007 where it observed that science and technology can aid in solving the crime more efficiently. The Committee expressed concern about ‘the lack of infrastructure, personnel and resources’ because of which the criminal justice system is not able to fully utilise science and technology in the criminal investigation.

B.R. Sharma⁶, in his book on scientific criminal investigation has given a comprehensive account of different facets of scientific criminal investigation. The book is divided into three parts- part I looks into the basic meaning and need of scientific investigation, the investigator’s role in preserving of evidence from the crime scene, importance of crime scene photography, crime scene management, crime detection devices, etc., part II deals with various techniques used in scientific investigation such as fingerprints, narco analysis, etc. Highlighting the importance of basic knowledge in science to understand the medico-legal reports, the last part of the book covers offences against human body such as murder, rape and other sexual offences, dowry death, etc. The book was written in 2005, so does not cover the landmark judgment *Selvi v. State of Karnataka*⁷ and the developments in the field thereafter.

Satyendra K. Kaul and Mohd. H. Zaidi, in his book,⁸ has explained the three techniques- polygraph, narco analysis, and brain mapping’ in detail. The scientific and legal aspects of the techniques are discussed along with the related cases. The book is good in terms of compilation of a lot of information regarding the three techniques and constitutional rights of the accused. The author also throws light on the process of interrogation of the accused and suspects in police custody. The book was written in 2009, so does not cover the landmark judgment *Selvi v. State of Karnataka*, (2010) 7 SCC 263, and the developments in the field thereafter.

V.R. Dinkar, through this book on scientific evidence,⁹ has filled in the existing gap in the legal academia with respect to appreciation of scientific evidence. The book highlights that the lawyers and judges do not place much reliance on scientific evidence either due to lack of knowledge or lowliness. The author is of the view that the problems in the interface between science and law arise due to lawyers’ holding of conservative view about scientific techniques that they are conclusive and accurate.

⁴ *Supra* 2.

⁵ Madhava Menon Committee, REPORT ON DRAFT NATIONAL POLICY ON CRIMINAL JUSTICE Ministry of Home affairs, Government of India (July 2007).

⁶ B.R. Sharma, SCIENTIFIC CRIMINAL INVESTIGATION (Universal Law Publishing, Delhi, 2006).

⁷ (2010) 7 SCC 263.

⁸ Satyendra K. Kaul and Mohd. H. Zaidi, NARCO ANALYSIS, BRAIN MAPPING, HYPNOSIS AND LIE DETECTOR TESTS IN INTERROGATION OF SUSPECT (Alia Law Agency, Allahabad, Lucknow, 2009).

⁹ V.R. Dinkar, SCIENTIFIC EXPERT EVIDENCE: DETERMINING PROBATIVE VALUE AND ADMISSIBILITY IN THE COURTROOM (Eastern Law House, Delhi, 2013).

In the five chapters, the book has covered the meaning of scientific evidence, expert, exclusionary rules of evidence. While describing the theoretical and judicial approach in ‘determining the probative value and admissibility of scientific evidence’, the author looks into the legal standards required for interpretation of the scientific evidence in the courtroom.

Shivani Mittal, in her article on ‘right against self-incrimination’¹⁰ has traced the journey of the case laws on the right. Pointing out the loopholes in the *M.P. Sharma v. Satish Chandra*,²⁴ the author discusses the judgment of *Kathi Kalu Oghad v. State of Bombay*,²⁵ which removed the anomalies in *M.P. Sharma*. The article further examines the right in the present age of social media.

1.3 Objectives of the Study

1. To consolidate information relating to the evolution of police in the Indian Legal System to show how the mode of investigation has changed over the years.
2. To explore the extent of use of the ‘polygraph, narco analysis, and brain mapping’ in the investigation, prosecution, and trial, and its potential scope.
3. To identify the reasons for inadequate use of forensic science in the criminal justice system, and to suggest ways for improved utilisation of existing resources to bring about qualitative improvement in the collection, and analysis of scientific evidence.
4. To study the tension between the ‘right against self-incrimination’, and the ‘right to privacy’ vis-a-vis administration of scientific techniques to the accused, suspects, and witnesses.
5. To do a quantitative and qualitative analysis of the Supreme Court and High Court judgements where the techniques have been used as evidence.

1.4 Research Questions

1. What are the safeguards required for the effective use of these techniques?
2. What are the limitations of new scientific techniques? How can they be made more reliable?
3. What is the extent of use of these techniques in criminal cases?
4. What are the problems faced by police, prosecutors, judges, and forensic experts during investigation, prosecution, and trial?
5. What are the kinds of cases where these techniques have been used?

1.5 Research Methodology

The method chosen for the research is doctrinal research as the primary focus of the study is the analysis of judicial decisions. Limited fieldwork on the area relating to some stakeholders involved in scientific investigation and trial was already available. It needed to be supplemented by theoretical analysis of the judicial decisions. Hence, doctrinal research method has been found to be most appropriate for the purpose. The collection of material includes primary and secondary legal sources, as well as non- legal sources.

The primary sources are the statutes and judicial decisions. The secondary legal material includes reports of Law Commission, ‘Malimath Committee Report on Reforms of Criminal Justice System’, and Report of ‘Madhava Menon Committee on Draft National Policy on Criminal Justice System.’ As the subject matter is an interaction between law and science, non- legal material from the field in psychology and science are also included.

¹⁰ Shivani Mittal, ‘The Right against Self-Incrimination and State of Bombay v. Kathi Kalu Oghad: A Critique’ 2(1) NLUJ LAW REVIEW 75-92 (2013).

2. Evolution of Investigative Agency and Scientific Evidence

2.1 Introduction

“*Shanti, Sewa, Nyay*”¹¹, “*Suraksha Apki, Sankalp Humara*”,¹² “*Duty, Honour, Compassion*”,¹³ “*Always at your service*”¹⁴, “*We Serve and Protect*”¹⁵ the motto of different police departments across the country reflect a common goal of police as a law enforcement agency, i.e., maintenance of law and order, serving and protecting the general public from any sort of crime by identifying and collecting all evidence needed for convicting the guilty, and exonerating the innocent.

Achieving the above goals is no easy task. The criminals are resorting to newer technologies and more sophisticated methods of the commission of crime, and often become successful in erasing the evidence of their involvement in the crime. The popular TV shows and movies related to Crime Scene Investigations (CSI) put an impact on the minds of the general public popularly known as the CSI effect, due to which people have unusual expectations from the investigative agencies as well as the judicial system. People expect that the police should be well versed with the latest technology and scientific techniques, and thus should be able to solve a case in a short span of time, just as is shown in the TV shows. Moreover, the huge pendency of cases, low conviction rate and low disposal rate are also the reasons that society is losing faith in the criminal justice system. All these factors put additional pressure on the police.

The police are invested with the duty to ‘maintain law and order in the society’, to ‘prevent and investigate the commission of crime’. To give the criminal justice system a true meaning, the adjective law must be equally strong as the substantive

2.2 Investigative Agency and Crime Scene Management

Police are vested with the powers to investigate a case under BNSS, 2023. The Lexicon Webster dictionary defines the term ‘police’ as an ‘organized civil force for maintaining public order, preventing and detecting crime and enforcing the laws’. The police are the main essence of good governance. They are regarded as the ‘watchdogs of peace and security’ in society. In a layman’s language, the term ‘police’ refers to the trained professionals that are employed by the State organizations, and are equipped as ‘specialists’ in policing. Over the years, the term ‘police’ has become analogous to a specific way of performing police functions.¹⁶

2.2.1 Evolution of Police in India

Initially, the personal bodyguards of rulers or warlords or community organizations where people committed for mutual protection developed into either ‘military’ or ‘semi-military’ organizations.¹⁷

3. New Scientific Techniques- Polygraph, NARCO Analysis, Brain Mapping

3.1 Introduction

In the present times of high-end technology, the modus operandi of crime has changed drastically, and criminals are resorting to more sophisticated and highly technical methods for the commission of a

¹¹ Delhi Police Motto, available at <http://www.delhipolice.nic.in/> (last accessed on 21st Jan 2026).

¹² Uttar Pradesh Police Motto, available at <https://uppolice.gov.in/> (last accessed on 21st Jan 2026).

¹³ Telangana Police Motto, available at <https://www.tspolice.gov.in> (last accessed on 21st Jan 2026).

¹⁴ Assam Police Motto, available at <https://police.assam.gov.in/> (last accessed on 21st Jan 2026).

¹⁵ Odisha Police Motto, available at <https://odishapolice.gov.in> (last accessed on 21st Jan 2026).

¹⁶ P. Rowlings, CRIME AND POWER: A HISTORY OF CRIMINAL JUSTICE (1999).

¹⁷ THE NEW ENCYCLOPAEDIA BRITANNICA, Vol.25, (15th edn).

crime, and often succeed in erasing evidence of their participation in the crime. As Krishna Iyer, J, remarked, ‘The courts self-incriminate themselves if they keep the gates partly open for the culprits to flee the justice under the guise of interpretative enlargement of the golden rule of criminal jurisprudence’.¹⁸ In such a scenario, it becomes necessary for the investigative agencies to keep themselves abreast with the latest technologies in crime-solving.

The use of scientific techniques in solving crimes has changed the way everything works. Scientific techniques of interrogation have gained immense popularity in the past few decades for being an effective tool of investigation and an alternative to the ‘third-degree’ methods of interrogation. In addition, these techniques have also proved to be highly successful in extracting information from the accused and suspects which they were otherwise not willing to share. They play an important role in securing the conviction of the guilty, and exoneration of the innocent. In a series of cases, the courts have acknowledged the necessity for infusing scientific techniques in aid of investigation.

‘The Criminal Justice system has come to the cross-roads. Many times, reliable, trustworthy, credible witness to the crime seldom come forward to depose before the court and even the hardened criminals get away from the clutches of the law. Even the reliable witness for the prosecution may turn hostile due to intimidation, fear or host of other reasons. The investigating agency has, therefore, to look for other ways and means to improve the quality of investigation, which can only be through the collection of scientific evidence. In this age of science, we have to build legal foundations that are sound in science as well as in law. Practices and principles that served in the past, now people think, must give way to innovative and creative methods, if we want to save our criminal justice system.’

The three scientific techniques that have gained popularity in recent times are ‘polygraph, narco analysis, and brain mapping.’ They are commonly also known as Deception Detection Tests (DDTs) as they detect any lies or deception by the subject. The major debate surrounding these techniques is their impact on the ‘right against self-incrimination’ and ‘the right to privacy’ (discussed in detail in the next chapter). In other instances, when blood, fingerprints, or nails, etc. were directed to be given in evidence by the court, the defence had challenged those directions on the ground of violation of the fundamental ‘right against self-incrimination’. Those challenges were rejected by the courts on the ground that the evidence so procured could go either way in favour of the accused or against them. The scientific evidence obtained from fingerprint analysis, blood group analysis, shoeprint analysis, voice analysis, or DNA, is in the form of physical evidence, and do not reveal any personal information from the accused. Since, these evidence do not fall into the category of ‘personal testimony’, hence, do not amount to be self-incriminating, and are outside the protection accorded by the ‘right against self-incrimination’. However, in the case of these three techniques, it is argued that the procedures involved are inhumane, and that the accused undergoing these techniques gives information while they are not in their senses. The tests are alleged to be infringing the ‘right to privacy’, ‘right against self-incrimination’ and ‘human rights’ of the subject. Amidst all these allegations, it has also to be kept in mind that the investigation of a case has to be completed within a reasonable time failing which accused gets the benefit of this delay. Section 2(1) of BNSS, 2023 defines investigation as ‘including all the proceedings under this Sanhita for the collection of evidence conducted by a police officer or by any other person (other than a Magistrate) who is authorised by a Magistrate in this behalf’. Thus, the police need to collect evidence about the crime within a reasonable time.

Apart from the collection of evidence from the crime scene, interrogation of the accused and suspects

¹⁸ *Nandini Satpathy v. P.L. Dami & Anr.* AIR 1978 SC 1025 at 1032.

plays a vital role in the collection of evidence. The co-operation of the accused and suspects is important in this case. However, it is often seen that they do not co-operate with the police, and are not ready to divulge any information or refuse to answer the questions put to them. This is a difficult situation for interrogating officials. The use of any form of torture is not allowed for interrogation.¹⁹ Also, a confession made to the police is not accepted as evidence. In such a scenario, the question is that when an accused is not answering the questions, can the police use these deception detection methods like 'polygraph, narco analysis, and brain mapping' to extract information from the accused? The present chapter is divided into V parts. Part I is the introductory section. The origin, historical development, procedure, precautions to be taken, advantages, and disadvantages of 'polygraph, narco analysis, and brain mapping', are dealt in part II, III, and IV respectively. The last part of the chapter gives the information regarding the FSLs where these techniques are conducted, and the visit of the researcher to the same. The chapter ends with the conclusion of the three techniques.

3.2 Polygraph (Lie-Detector) Test

Each one of us has at some point of time lied; hence we all have a personal experience of the inner sensations that are felt during lying. Everyone has felt the increase in heart rate, sweating, increase in blood flow, face turning red, impulsiveness to swallow, or such other phenomenon resulting from the fear of detection of the lie; also the calmness often accompanied by heavier breathing, if the lie goes undetected. Sometimes, a lie can be identified by simply analysing the general expressions of face, and body language like failure to look straight into the eyes of the prober, blinking of eyes, changed tone of voice, a laboured laugh, rubbing of hands and legs, needless requests of repeating the question, a counter inquiry of 'who, me?'

4. Confession And NARCO Analysis

4.1 Introduction

With the rapid advancements in science outpacing the evolution of law, there arises a complex situation regarding the admissibility of evidence in court. Narco-analysis has emerged as a common term in India, derived from the Greek word 'narke' meaning "anesthesia" or "torpor". This technique involves the use of psychotropic drugs to induce a stupor, allowing suppressed mental elements to surface for therapeutic purposes. The ethical implications of narco-analysis raise questions at the intersection of law, medicine, and ethics, particularly concerning the right against self-incrimination. Recent media coverage of individuals undergoing narco-analysis has ignited a debate on its legality and implications. India follows the opposable system of law and the state has to collect evidence and then accuse the suspect. The police have to investigate with an object to collect necessary facts, information, and evidence for production during the trial. It is difficult to Judges to have complete knowledge to determine, if the testimony about technical and scientific evidence like narco-analysis, they are receiving is correct and reliable. As much legal protection has to be placed to ensure or promote reliability.²⁰

4.2 Confession: Mean and Definition

The word 'confession' has nowhere been defined. However, the courts have resorted to the dictionary meaning and explained that incriminating statements by the accused to the police suggesting the

¹⁹ Suresh Benjamin, 'Prevent Torture by the Police and Investigation Agencies' CR LJ 10 (2001).

²⁰ Varsha Bharwadaj, Narco Analysis Test under Indian Evidence Act, 1872, Available At: <https://thelawbrigade.com/wp-content/uploads/2021/07/Varsha-Bharwadaj-1-JLSR.pdf>, Visited On 13/02/2026 at 8.11pm.

inferences of the commission of the crime would amount to confession... It is also defined to mean a direct acknowledgement of guilt and not the admission of any incriminating fact, however grave or conclusive.²¹

The word 'confession' has not been defined anywhere in the BSA, 2023. A 'confession' is an admission made at any time by a person charged with a crime, stating or suggesting the inference that he committed that crime.²² A confession is a statement which either admits in terms the offence or at any rates substantially all the facts which constitute the offence. Confession is an admission of guilt and is used against the maker. The word 'statement' includes both oral and written statement. Communication to another is not however an essential component to constitute a 'statement'. An accused might have been over-heard uttering to himself or saying to his wife or any other person in confidence. If such statement is an admission of guilt, it would amount to confession, whether it is communicated to another or not. A confession must be in relation to an offence and if by reason of a purported admission no offence is made out, the authorities there by would not get any jurisdiction to make any investigation.²³

5. Scientific Investigation and Constitutional Rights

5.1 Introduction

India follows the adversarial system of trial, where the 'State is required to prove the case against the accused beyond reasonable doubts'. To discharge this burden effectively, the evidence collected by the Investigating Officer (IO) is relied upon by the prosecution. The IO visits the scene of crime, collects evidence from there, sends any evidence which need scientific analysis to the FSL, and preserves other evidence safely to be produced in the court during trial. The IO then interrogates the accused and suspects, and collects evidence about their possible role in the crime. Thus, the evidence collected by the police forms the basis of a sound trial. However, as the State is more powerful than the individual, the possibility of probable abuse of this position and use of force, threat, or other inducements on the accused to obtain his testimony cannot be ruled out. The Privy Council in *King Emperor v. Nazir Ahmed*²⁴ held that 'the functions of the judiciary and the police are complimentary to each other, and not over-lapping.' The function of the court begins once the charge sheet has been filed and not before. At the same time, the State is also the protector and guardian of the rights of the people living in its territory. While protecting these rights, the State must strike a balance between 'administration of justice' and 'rights of an accused'. The need of this balance gains prominence especially during the time when there are increasing concerns about the third degree methods of interrogation, eye witnesses turning hostile, 'low conviction rate', and 'huge pendency of cases'. One of the founding principles of fair trial, 'presumption of innocence until proven guilty' will lose its meaning if there is any 'compulsion' on the accused, or if he is robbed of any of his rights to give a testimony.

The Constitution of India, through various provisions protects the rights of the accused, most prominent amongst which are the 'right against self- incrimination', and 'right to life and liberty', provided under Article 20(3) and 21 respectively. 'Right to privacy' has been recognized as an integral part of the 'right to life and liberty'. By the 44th Amendment Act, 1978, these rights were accorded the status of non-derogable rights, which means that they cannot be suspended even in case of emergency. This

²¹ *Indra Dalal v State of Haryana*, (2015) 11 SCC 31

²² *Indra Dalal v State of Haryana*, (2015) 11 SCC 31

²³ *Ganesh Traders v District Collector, Karimnagar*, 2002 Cr LJ 1105, 1114 (para 28) (AP)

²⁴ AIR 1936 PC 253.

development itself speaks volume of the importance the Constitution gives to these rights. Traditionally, the investigating agencies relied majorly on physical evidence and third degree methods of interrogation, which did not prove to be very successful. With the growth of science and technology, the investigators also started using scientific techniques such as fingerprints, ballistics, blood pattern analysis, etc., for the purpose of investigation. Over the past few decades, the scientific techniques such as ‘lie-detector test, narco-analysis, and brain mapping’ have also proved to be potent techniques of interrogation.⁶ While being applauded for being an alternative for the third degree method of interrogation, and extracting reasonably accurate information from the accused, there has been a controversy regarding whether compelling an accused to undergo the scientific techniques violates the Constitutional guarantees against self-incrimination and privacy. The landmark judgment on the point, *Selvi and Ors. v. State of Karnataka*,²⁵ held that if a person is subjected to the scientific techniques without his consent, his ‘right against self-incrimination’ and ‘right to privacy’ are violated.

In the backdrop of above issues, present chapter is restricted to the detailed study of two Constitutional rights, i.e., the ‘right against self-incrimination’ and ‘right to privacy’. It is divided into IV parts- part I is the general introductory section, part II looks at the ‘right against self-incrimination’ meaning and definition, origin, underlying policy, Constitutional and statutory scheme related to the right. The judicial trend on various facets of the right has been traced, where the moot question has generally been the interpretation of what constitutes ‘to be a witness against himself’. Part III discusses the ‘right to privacy’ and development of the right by looking at the judicial trend over the years. Lastly, the tension between the three techniques and the ‘right to privacy’ has been focused upon. The last part concludes the discussion.

The phrase ‘right against self-incrimination’ has been interchangeably used as ‘right to silence’ in the ‘recommendations of Law Commission of India and Malimath Committee Report’, and in this chapter too, the two phrases have been used interchangeably.

6. Right against Self-Incrimination

6.1 Meaning

The ‘right against self-incrimination’, popularly also known as ‘right to silence’ is a fundamental principle of common-law criminal jurisprudence, which was adopted by the Constitution of United States under the Fifth Amendment,²⁶ and later by the Constitution of India via Article 20(3). According to Black’s Law Dictionary, self-incrimination means ‘a declaration or an act that occurs during an investigation where a person or witness incriminates them, either explicitly or implicitly.’

The ‘right against self-incrimination’ is based on the Latin maxim ‘*nemo tenetur se ipsum accusare*’ which means that ‘no man is bound to accuse himself’. In simple words, it implies that every accused person has a right to remain silent, and he cannot be forced to reply to the questions that tend to incriminate him.

7. Conclusion

Because of the growing complexity of crimes and technical improvements, India's criminal justice system is changing dramatically. The effectiveness of criminal investigations may be improved by

²⁵ (2010) 7 SCC 264

²⁶ Fifth Amendment, Constitution of US reads: ‘No person... shall be compelled in any criminal case, to be a witness against himself’.

scientific investigative methods like brain mapping, narco analysis, and polygraph examinations. However, there are significant ethical and constitutional issues with their usage.

The Indian Supreme Court has been instrumental in striking a balance between the preservation of individual rights and the goals of efficient law enforcement. Significant protections against the improper use of scientific interrogation methods were established by the ruling in *Selvi v. State of Karnataka*.

India has to create a thorough legislative framework that controls the use of scientific evidence in criminal investigations going ahead. Building an equitable and efficient criminal justice system will require bolstering forensic infrastructure, enhancing investigator training, and making sure that constitutional protections are strictly adhered to.

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