

# Constitutional Validity of Scientific Interrogation Techniques in India: An Analysis of Narco-Analysis, Polygraph and Brain Mapping Tests

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*Abstract- Narco-analysis, often described as a “truth serum” technique, has emerged as a controversial tool in criminal investigations, particularly in India. This study critically examines the scientific validity, legal permissibility, and constitutional implications of narco-analysis within the framework of Indian criminal jurisprudence. While projected as a modern alternative to coercive interrogation methods, narco-analysis raises serious concerns regarding reliability, voluntariness, and the protection of fundamental rights. The research traces the historical evolution and pharmacological basis of narco-analysis, highlighting its inherent limitations, including suggestibility, hallucinations, and the risk of false or distorted responses. It further analyzes the doctrine of self-incrimination under Article 20(3) of the Constitution of India, along with the closely related rights to silence and privacy under Article 21. Judicial interpretations, particularly in *Selvi v. State of Karnataka*, have been examined to establish that involuntary administration of such techniques constitutes testimonial compulsion and violates personal liberty. The study also evaluates the evidentiary inadmissibility of statements obtained through narco-analysis under the Indian Evidence Act, 1872, while addressing the limited and controversial scope of derivative use under Section 27. A comparative analysis of legal positions in jurisdictions such as the United States and the United Kingdom further reinforces the global reluctance to accept such techniques due to their coercive and unreliable nature. Ultimately, the research concludes that narco-analysis, despite its perceived investigative utility, is incompatible with constitutional safeguards, scientific standards, and principles of fair trial. It advocates for stricter legal regulation, enhanced reliance on conventional forensic methods, and the prioritization of human rights in criminal investigations.*

**Keywords:** *Narco-Analysis, Truth Serum, Criminal Investigation, Scientific Validity, Article 20(3), Self-Incrimination, Article 21, Personal Liberty, Selvi V. State Of Karnataka, Evidentiary Inadmissibility, Section 27, Human Rights*

## I. INTRODUCTION

Interrogation has long been a central tool in criminal investigation, often relying on the skill, psychological insight, and experience of investigators. However, when suspects remain uncooperative, law enforcement agencies have historically resorted to coercive methods, including “third-degree” techniques. With advancements in science, attempts have been made to replace such practices with so-called “scientific” methods of interrogation, one of which is narcoanalysis.

Narcoanalysis, commonly referred to as “truth serum” testing, involves administering psychoactive drugs to induce a semi-conscious state in which a subject is believed to be less capable of deception. Despite its popular label, the term “truth serum” is misleading, as these substances do not guarantee truthful responses. Instead, they reduce inhibitions and may lead to the disclosure of both factual information and imaginative or hallucinatory content. The technique has been used in various jurisdictions, particularly in cases involving serious crimes and national security concerns.

### Historical Background

The origins of narcoanalysis date back to the early 20th century. In 1922, Robert House experimented with the drug scopolamine on criminal suspects, claiming that individuals under its influence could not fabricate lies. Although his conclusions lacked scientific reliability, they generated significant interest. The term “narcoanalysis” was later coined in 1936.

Subsequent experimentation, particularly by agencies such as the Central Intelligence Agency, revealed the limitations of such techniques. Declassified materials acknowledged that while these drugs might reduce

resistance, the information obtained could include distortions, illusions, or disorientation, thereby undermining their reliability.

In India, narcoanalysis gained prominence in the early 2000s, particularly in high-profile cases such as the Godhra investigation and the Telgi stamp paper scam. Media coverage contributed to public awareness, though understanding of its scientific and legal implications remained limited.

#### Meaning and Mechanism of Narcoanalysis

Narcoanalysis involves the administration of barbiturate drugs such as sodium pentothal or sodium amytal to induce a hypnotic or trance-like state. In this condition, the subject's cognitive faculties—particularly imagination and reasoning—are believed to be impaired, making it difficult to fabricate responses. However, this assumption is problematic, as the subject may still produce inaccurate, suggestible, or imagined answers.

The process typically involves controlled intravenous administration of the drug by medical professionals, followed by questioning conducted by forensic experts in coordination with investigators. While the subject may appear more communicative, the responses are not necessarily reliable and may include subconscious thoughts, fantasies, or distortions.

#### Pharmacological Aspects and Risks

The drugs used in narcoanalysis belong to the category of hypnotics and sedatives that depress the central nervous system. Their effects depend on dosage, method of administration, and the subject's physical and mental condition. Incorrect dosage can result in severe complications, including respiratory depression, coma, or even death.

Barbiturates act by altering brain function, affecting neurotransmitters and reducing neural activity. While they may lower inhibitions, they also impair comprehension and cognitive processing, limiting the subject's ability to respond accurately, especially to complex questions. Additionally, factors such as drug tolerance, psychological resistance, or deliberate manipulation by the subject can further compromise the reliability of the test.

#### Legal Framework: Protection Against Self-Incrimination

The use of narcoanalysis raises serious constitutional concerns, particularly under Article 20(3) of the Constitution of India, which protects individuals from self-incrimination. This principle, rooted in both English and American jurisprudence, ensures that no accused person can be compelled to testify against themselves.

The scope of this protection has been expanded through judicial interpretation. In *Nandini Satpathy v. P.L. Dani*, the Supreme Court held that compelled testimony includes not only physical coercion but also psychological pressure and indirect methods of extraction. Similarly, in *M.P. Sharma v. Satish Chandra*, the Court emphasized that testimonial compulsion extends beyond courtroom statements to investigative processes.

The landmark judgment in *Selvi v. State of Karnataka* further clarified that involuntary narcoanalysis, along with polygraph and brain-mapping tests, violates personal liberty and the right against self-incrimination. The Court held that such techniques cannot be administered without the subject's informed consent.

#### Issues of Consent and Compulsion

Although authorities often obtain written consent before conducting narcoanalysis, the voluntariness of such consent is questionable. Given that the test is typically administered to uncooperative or detained individuals, the possibility of coercion—direct or indirect—cannot be ruled out. This raises concerns about the validity of consent and the potential infringement of fundamental rights.

#### Procedure and Evidentiary Value

Narcoanalysis is conducted under medical supervision, involving a team of specialists including an anaesthesiologist, forensic psychologist, and physician. The questioning is carried out during a controlled hypnotic stage. While the technique may assist in gathering investigative leads or corroborating evidence, the statements obtained are not admissible as direct evidence due to concerns regarding voluntariness and reliability.

However, information derived from such tests may have “derivative use,” meaning it can lead to the discovery of independent evidence. This creates a complex legal scenario where the test itself is questionable, but its outcomes may indirectly influence the investigation.

#### Scientific and Ethical Concerns

The scientific validity of narcoanalysis remains highly contested. The assumption that reduced inhibition leads to truthful disclosure is not supported by consistent empirical evidence. Subjects may produce false, misleading, or confabulated responses. Moreover, the procedure carries significant medical risks and ethical concerns, particularly regarding bodily autonomy and mental privacy.

The comparison between narcoanalysis and traditional coercive methods is often used to justify its application. However, replacing physical coercion with pharmacological intervention does not eliminate the underlying issue of compulsion. Instead, it introduces new risks and challenges, both scientific and constitutional.

#### Doctrine of Self-Incrimination and the Right to Silence (Condensed)

The doctrine of the right against self-incrimination is a fundamental principle of criminal jurisprudence, originating in English law and later incorporated into constitutional frameworks worldwide. Historically, coercive practices such as those employed by the Court of Star Chamber led to widespread opposition, ultimately resulting in the recognition of the right against compelled testimony. This principle was subsequently embedded in the Fifth Amendment to the United States Constitution, which prohibits compelling an individual to testify against themselves. In India, this protection is enshrined under Article 20(3) of the Constitution, which states that no person accused of an offence shall be compelled to be a witness against himself. The provision is grounded in the presumption of innocence and places the burden of proof on the prosecution. Its applicability depends on key elements: the existence of an accusation, compulsion, and the likelihood of self-incriminatory testimony.

#### Scientific Evidence and Self-Incrimination

The increasing use of scientific techniques in criminal investigations, including narcoanalysis, raises questions about their compatibility with the right against self-incrimination. For any scientific method to be admissible, it must satisfy three criteria: validity, reliability, and legality. However, existing literature reveals insufficient scientific consensus regarding the reliability and accuracy of narcoanalysis.

A critical issue arises as to whether such techniques, which function as substitutes for confessions, should be governed by the same constitutional safeguards. If scientific methods are used to extract information akin to confessions, they must be subject to the same limitations imposed by the privilege against self-incrimination. Otherwise, they risk bypassing fundamental protections afforded to the accused.

#### Application of Article 20(3) to Narcoanalysis

Narcoanalysis directly implicates Article 20(3) because its primary objective is to extract statements or confessions from a subject in a semi-conscious state. In such a condition, the subject’s cognitive faculties are impaired, raising serious concerns about voluntariness and reliability. Statements made under these circumstances may include not only factual information but also hallucinations or distortions, further weakening their evidentiary value.

The Supreme Court, in *State of Bombay v. Kathi Kalu Oghad*, clarified that the protection against self-incrimination extends beyond courtroom testimony to earlier stages of investigation. This implies that subjecting an individual to narcoanalysis without consent constitutes a violation of constitutional rights. **Meaning of Compulsion and Testimonial Evidence**

The concept of “compulsion” under Article 20(3) has been interpreted broadly to include both physical and psychological coercion. In *Nandini Satpathy v. P.L. Dani*, the Court expanded the meaning of compelled testimony to include mental pressure, intimidation, and coercive interrogation techniques.

Similarly, in *M.P. Sharma v. Satish Chandra*, the Court interpreted the phrase “to be a witness” to include not only oral testimony but also the production of evidence. However, this interpretation was later

refined in Kathi Kalu Oghad, distinguishing between “furnishing evidence” and “being a witness.”

Narcoanalysis falls within the scope of testimonial compulsion because it involves extracting personal knowledge through impaired mental states. Even if the subject does not consciously intend to testify, the responses generated are communicative in nature and therefore attract constitutional protection.

#### Judicial Position: Selvi Case

The landmark judgment in *Selvi v. State of Karnataka* settled the constitutional validity of narcoanalysis and related techniques. The Supreme Court held that the involuntary administration of narcoanalysis, polygraph, and brain-mapping tests violates both Article 20(3) (right against self-incrimination) and Article 21 (right to personal liberty and privacy).

The Court emphasized that:

- Compelled administration of such techniques amounts to testimonial compulsion.
- The results obtained are inherently unreliable and cannot be treated as conclusive evidence.
- The use of such methods undermines the right to a fair trial and due process.

The judgment also clarified that the protection under Article 20(3) extends to the investigative stage and applies not only to accused persons but also to individuals who may be exposed to criminal liability.

#### Right to Silence and Privacy

The right against self-incrimination is closely linked to the right to silence and the right to privacy. The Court in *Selvi* recognized that forcing an individual to reveal personal knowledge through narcoanalysis infringes upon mental privacy and bodily autonomy. This interpretation aligns Article 20(3) with the broader framework of personal liberty under Article 21.

The distinction between physical and testimonial evidence was also highlighted. While physical evidence such as fingerprints or blood samples may be collected without violating Article 20(3), narcoanalysis involves communicative responses, thereby falling within the ambit of testimonial evidence.

#### Evidentiary Concerns and Utility

Narcoanalysis presents significant challenges in terms of evidentiary value. The information obtained may be:

- Inculpatory, thereby violating constitutional protections;
- Exculpatory, but lacking evidentiary admissibility; or
- Inconclusive, rendering the test ineffective.

Even derivative use—where information leads to the discovery of independent evidence—remains constitutionally questionable when obtained through compulsion. Consequently, the utility of narcoanalysis is limited and often outweighed by its legal and ethical concerns.

#### NHRC Guidelines

To regulate the use of such techniques, the National Human Rights Commission has issued guidelines, emphasizing:

- Voluntary consent of the subject;
- Access to legal counsel;
- Judicial oversight through a Magistrate;
- Medical supervision and documentation;
- Conduct of tests in independent institutions.

These safeguards aim to ensure that individual rights are protected, although concerns regarding the voluntariness of consent persist.

#### Constitutionality of Narco-Analysis

The process of criminal investigation has always relied heavily on interrogation as a means of discovering truth. Historically, such interrogation often involved coercive practices, including physical and psychological torture, to extract confessions from suspects and accused persons. With the advancement of science and technology, modern investigative techniques such as narco-analysis, polygraph tests, and brain-mapping have been introduced as alternatives to traditional “third-degree methods.” These techniques are often presented as more humane and scientifically advanced tools of investigation. However, their constitutional validity remains deeply contested, particularly in the context of fundamental rights guaranteed under the Constitution of India.

In India, the judicial response to narco-analysis has not always been consistent. In the early 2000s, several courts permitted the use of narco-analysis in high-profile criminal investigations. For instance, courts allowed such tests in cases relating to the Godhra carnage and the stamp paper scam involving Abdul Karim Telgi. As a result, narco-analysis gradually became a commonly employed investigative technique, often used irrespective of the consent of the accused or suspect. This trend stood in contrast to the position adopted in jurisdictions such as the United States, where the results of such tests were generally regarded as inadmissible due to questions surrounding their reliability and voluntariness.

The scientific credibility of narco-analysis has been a matter of serious debate. Expert opinions and studies have repeatedly indicated that the technique lacks sufficient reliability and validity. The administration of so-called “truth serums” does not guarantee truthful responses; rather, individuals under such influence may become highly suggestible and prone to giving inaccurate or misleading answers. Consequently, narco-analysis cannot be considered a scientifically robust method of evidence collection. The use of such a technique in criminal investigations raises not only evidentiary concerns but also broader constitutional and human rights issues.

At the heart of the constitutional challenge to narco-analysis lies Article 20(3) of the Constitution of India, which provides that no person accused of an offence shall be compelled to be a witness against himself. This provision embodies the fundamental principle of the privilege against self-incrimination, which is rooted in the maxim *nemo tenetur se ipsum accusare*, meaning that no individual can be forced to testify against himself. The protection under Article 20(3) is triggered when three conditions are satisfied: the person must be accused of an offence, there must be compulsion, and such compulsion must result in the person giving evidence against himself.

Narco-analysis directly implicates all three elements. The technique involves the administration of drugs that impair the subject’s cognitive faculties, thereby rendering him incapable of exercising conscious control over his responses. In such a state, any statement made cannot be said to be voluntary. The

element of compulsion is inherent in the very nature of the test, particularly when it is administered without the free and informed consent of the individual. Moreover, the responses elicited during the test are based on the personal knowledge of the subject and may potentially be incriminatory. Therefore, subjecting an accused to narco-analysis amounts to compelling him to be a witness against himself, in clear violation of Article 20(3).

Judicial interpretation of the scope of Article 20(3) has evolved over time. In *M.P. Sharma v. Satish Chandra*, the Supreme Court adopted a broad interpretation of the phrase “to be a witness,” holding that it includes not only oral testimony but also documentary and other forms of evidence. However, this expansive interpretation was later qualified in *State of Bombay v. Kathi Kalu Oghad*, where the Court distinguished between testimonial acts and the production of physical evidence, such as fingerprints or handwriting samples. The Court held that the latter do not fall within the ambit of Article 20(3) as they do not involve the communication of personal knowledge.

The scope of protection under Article 20(3) was further expanded in *Nandini Satpathy v. P.L. Dani*, where the Supreme Court held that the right against self-incrimination extends to the stage of police interrogation and includes protection against not only physical coercion but also psychological pressure, intimidation, and environmental coercion. The Court also recognized the right of the accused to remain silent during questioning, thereby reinforcing the principle that voluntariness is essential to the admissibility of any statement.

The constitutional validity of narco-analysis was conclusively addressed in *Selvi v. State of Karnataka*, a landmark judgment that marked a significant shift in the judicial approach. The Supreme Court held that the involuntary administration of narco-analysis, polygraph tests, and brain-mapping techniques violates both Article 20(3) and Article 21 of the Constitution. The Court reasoned that such techniques involve a forcible intrusion into the mental processes of an individual and result in the extraction of personal knowledge without the exercise of free will. Consequently, they constitute testimonial compulsion and are therefore prohibited under Article 20(3).

In addition to violating the right against self-incrimination, narco-analysis also infringes upon the right to life and personal liberty guaranteed under Article 21. The Court in *Selvi* emphasized that personal liberty includes the right to privacy, which encompasses an individual's mental autonomy and the freedom to choose whether or not to disclose personal information. The forcible administration of drugs during narco-analysis not only interferes with bodily integrity but also intrudes into the mental sphere of the individual, thereby violating the right to privacy and human dignity. The Court further observed that even if the information obtained through such techniques were to be true, the use of coercive methods would still be impermissible, as it would erode the ethical foundations of the criminal justice system.

An important issue that arose in this context was whether narco-analysis could be justified as a form of "medical examination" under Sections 53, 53A, and 54 of the Code of Criminal Procedure. The State argued that these provisions, which permit medical examination of the accused, could be interpreted broadly to include modern scientific techniques. However, the Supreme Court rejected this contention, holding that these provisions are limited to the collection of physical evidence and do not extend to techniques that involve testimonial responses. Applying the rule of *ejusdem generis*, the Court concluded that narco-analysis cannot be brought within the scope of medical examination as contemplated under the Code.

The use of narco-analysis also raises serious concerns regarding the prohibition of cruel, inhuman, and degrading treatment. The administration of drugs without consent, coupled with the psychological impact of the procedure, can cause significant physical and mental harm. In this regard, the principles laid down in *D.K. Basu v. State of West Bengal* are particularly relevant, as they emphasize the need to protect individuals in custody from any form of abuse or coercion. The Supreme Court in *Selvi* recognized that involuntary narco-analysis amounts to custodial torture, as it involves the intentional infliction of mental and physical suffering for the purpose of extracting information.

Furthermore, the use of narco-analysis has serious implications for the fairness of criminal trials. A fair trial requires that evidence be obtained through lawful and voluntary means and that the accused be given a meaningful opportunity to defend himself. The involuntary extraction of statements undermines the role of legal counsel, as the accused is rendered incapable of exercising judgment or discretion. Additionally, the reliability of such evidence is questionable, as it may be influenced by suggestion, environmental factors, and the psychological state of the subject. Consequently, narco-analysis fails to meet the standard of proof required in criminal proceedings, namely proof beyond reasonable doubt.

Even in cases where consent is purportedly obtained, questions remain regarding its voluntariness. Consent given under the threat of continued detention, coercion, or false promises cannot be regarded as free and informed. The Supreme Court has therefore emphasized that any consent for such procedures must be scrutinized carefully and must be obtained in a manner that ensures the absence of coercion. However, even voluntary administration does not guarantee the admissibility of the results, as the fundamental issue of reliability persists.

In conclusion, the constitutional framework in India places significant limitations on the use of narco-analysis in criminal investigations. While the State has a legitimate interest in effective law enforcement, this interest cannot override the fundamental rights of individuals. The privilege against self-incrimination, the right to privacy, and the guarantee of a fair trial are essential components of a civilized legal system. The jurisprudence developed by the Supreme Court makes it clear that narco-analysis, when administered involuntarily, is unconstitutional and incompatible with these principles. Even when conducted with consent, its evidentiary value remains doubtful. Therefore, reliance on such techniques must be approached with extreme caution, and the criminal justice system must prioritize methods that are both scientifically reliable and constitutionally sound.

Scientific Evaluation, Dangers and Criticisms of Narco-Analysis

The use of narco-analysis in criminal investigations has long been surrounded by claims of scientific

legitimacy, but a closer examination reveals deep-rooted concerns regarding its reliability, safety, and ethical acceptability. While investigative agencies often justify the use of narco-analysis as a modern alternative to coercive interrogation techniques, its scientific evaluation does not support such optimism. The results derived from narco-analysis are not considered sufficiently reliable to be used as evidence in courts of law, primarily because the scientific community has consistently questioned its validity. Courts have also largely refrained from admitting such results as substantive evidence, permitting their use, at best, as an investigative aid.

Several real-life instances further highlight the unreliability of narco-analysis. In the case involving Abu Salem, investigative agencies later admitted that the narco-analysis test misled them on critical facts, thereby demonstrating the fallibility of the technique. Similarly, in a murder case in Chikballapur, the husband of the deceased was subjected to narco-analysis, and the forensic report initially indicated his involvement. However, subsequent investigation revealed the actual perpetrator, whose fingerprints matched those found at the crime scene, thereby exposing the grave risk of false implication arising from reliance on such tests. These examples underscore the danger of treating narco-analysis as a dependable scientific tool.

The conceptual foundation of narco-analysis rests on the administration of barbiturate drugs such as sodium pentothal, commonly referred to as “truth serum.” However, this terminology is misleading, as no such drug can guarantee truthful responses. During a hearing before the United States Senate in 1977, the Central Intelligence Agency acknowledged that no chemical substance exists that can compel an individual to speak the truth with certainty. Instead, these substances merely depress the central nervous system and lower inhibitions, which may result in a mixture of truth, fantasy, suggestion, and imagination rather than accurate recollection.

Historically, the use of such substances dates back to the Second World War, when they were employed both for therapeutic purposes and for extracting information from captured individuals. However, their application in medical psychotherapy has since been

significantly restricted due to their adverse effects and questionable outcomes. Modern psychiatric practice recognizes that while barbiturates may assist in recovering repressed memories, they cannot reliably distinguish between factual memories and fabricated or distorted ones. Consequently, their use in criminal investigations raises serious concerns about evidentiary integrity.

The dangers associated with narco-analysis can broadly be categorized into medical and non-medical risks. From a medical perspective, the administration of barbiturates poses significant threats to the human body, particularly the brain. These substances are capable of crossing the blood-brain barrier and directly affecting neural tissues. Scientific studies indicate that even small quantities of such drugs can alter cognitive functioning, potentially leading to memory loss, confusion, impaired reasoning, or, in extreme cases, coma and death. Unlike other body cells, brain cells have limited regenerative capacity, which makes any damage caused by such substances potentially irreversible.

Further complications arise from the difficulty in determining the appropriate dosage for each individual. Factors such as age, physical health, mental condition, and tolerance levels significantly influence the drug’s effect. An incorrect dosage may result in severe physiological reactions, including respiratory failure or cardiac arrest. Medical literature also highlights risks associated with hypersensitivity, rapid absorption, accidental injection into blood vessels, and adverse reactions to accompanying agents such as adrenaline. These risks make narco-analysis a medically hazardous procedure, especially when conducted without comprehensive prior examination of the subject.

Apart from physical dangers, the technique also suffers from serious methodological flaws. Individuals under the influence of such drugs become highly suggestible, meaning that their responses can be easily influenced by the manner in which questions are framed. Psychological research suggests that a significant proportion of individuals are suggestible even in a fully conscious state, and this tendency is amplified under sedation. As a result, investigators may unintentionally—or deliberately—implant ideas

or narratives in the subject's mind, leading to distorted or false statements.

Moreover, there exists a substantial risk of false confessions. Under the semi-conscious state induced by narco-analysis, individuals may provide answers that align with their subconscious fears, desires, or assumptions rather than objective reality. In some cases, repeated or leading questions can create a perception of truth in the subject's mind, causing them to affirm events that never occurred. This phenomenon has been acknowledged in declassified interrogation manuals, where it was noted that drug-induced statements may include hallucinations, delusions, and distortions of reality.

Another critical concern is the issue of consent. Although procedural safeguards require obtaining consent before administering narco-analysis, the validity of such consent is highly questionable. Given the custodial environment and the inherent power imbalance between the investigating authorities and the suspect, consent may often be obtained through coercion, threat, or inducement. Even when consent appears voluntary, the circumstances under which it is given may render it legally and ethically invalid.

The evidentiary implications of narco-analysis further complicate its use. While courts have generally rejected the admissibility of such test results, information derived from these tests is sometimes used to discover additional evidence under provisions such as Section 27 of the Indian Evidence Act. However, this practice raises concerns about the indirect use of unreliable and potentially coerced statements, thereby undermining the fairness of the trial process.

Critics have also pointed out the institutional bias inherent in the use of narco-analysis. Since these tests are typically conducted under the supervision of law enforcement agencies, there is a risk that the process may be influenced by prosecutorial objectives rather than an impartial search for truth. The framing of questions, interpretation of responses, and presentation of findings may all be affected by such bias, further reducing the credibility of the technique. From a psychiatric standpoint, the reliability of narco-analysis has been widely disputed. Experts have consistently observed that individuals under the

influence of barbiturates may continue to lie, fabricate information, or provide misleading answers. Studies conducted on subjects undergoing such tests have demonstrated that a significant proportion of responses are inaccurate or influenced by suggestion. Scholars such as Fred E. Inbau have argued that skilled traditional interrogation techniques are often more effective than drug-induced questioning, as they allow for better assessment of credibility and consistency.

The broader scientific consensus categorizes narco-analysis as a pseudo-scientific technique due to its lack of empirical reliability and reproducibility. Even proponents of the method have failed to provide conclusive evidence supporting its accuracy. On the contrary, extensive pharmacological research on sodium pentothal has revealed its tendency to produce hallucinations and distortions, thereby undermining its utility as a truth-detection tool.

In light of these considerations, the continued use of narco-analysis raises fundamental questions about the balance between effective investigation and the protection of individual rights. While it may offer certain investigative leads, its inherent risks and limitations far outweigh its potential benefits. The technique not only jeopardizes the health and dignity of individuals but also threatens the integrity of the criminal justice system by introducing unreliable and potentially misleading information into the investigative process.

#### Admissibility and Evidentiary Value of Narco-Analysis Test

The question of admissibility and evidentiary value of narco-analysis tests within the Indian legal framework must be examined in light of statutory provisions, constitutional guarantees, and judicial pronouncements. At the outset, Section 3 of the Indian Evidence Act, 1872 defines "evidence" as encompassing both oral and documentary forms, namely statements made before the court by witnesses and documents, including electronic records, produced for inspection. However, statements elicited during narco-analysis or similar techniques do not comfortably fall within this definition, primarily because they lack the essential legal attributes required for admissibility, particularly voluntariness and reliability.

A crucial requirement under evidentiary law is that any statement admitted as evidence must be made in a conscious and rational state of mind. Statements obtained under narco-analysis are extracted when the subject is in a semi-conscious or hypnotic state induced by barbiturate drugs. This condition raises serious concerns regarding the cognitive capacity of the individual to comprehend, verify, or control the statements being made. Consequently, such statements fail to meet the foundational requirement of voluntariness, which is a cornerstone of admissibility in criminal jurisprudence.

Further, the admissibility of such statements is directly impacted by Sections 24 to 27 of the Indian Evidence Act. Section 24 renders confessions irrelevant if caused by inducement, threat, or promise from a person in authority. Sections 25 and 26 categorically prohibit confessions made to police officers or while in police custody unless made in the immediate presence of a Magistrate. Since narco-analysis tests are typically conducted while the accused is in police custody and often under the supervision or influence of investigating agencies, any statements derived therefrom fall within the scope of these prohibitions.

The constitutional dimension further reinforces this exclusion. Article 20(3) of the Constitution of India embodies the right against self-incrimination, providing that no person accused of an offence shall be compelled to be a witness against himself. Narco-analysis, when administered without consent, constitutes a direct violation of this right as it compels the accused to divulge personal knowledge without the exercise of free will. Additionally, Section 315 of the Code of Criminal Procedure, 1973, reflects a similar principle by ensuring that an accused cannot be compelled to testify.

Even if such statements are hypothetically considered under Section 161 of the Code of Criminal Procedure, they do not attain the status of substantive evidence. Section 161(2) explicitly protects individuals from answering questions that may incriminate them, while Section 162 restricts the use of such statements solely for purposes of contradiction or corroboration. Thus, statements obtained during narco-analysis lack independent evidentiary value.

An important exception often invoked in this context is Section 27 of the Indian Evidence Act, which allows the admissibility of information received from an accused in custody if it leads to the discovery of a relevant fact. This provision is based on the doctrine of “confirmation by subsequent facts,” wherein the discovery lends credibility to the information provided. However, even this exception is subject to the requirement that the information must be voluntarily given. Where compulsion, coercion, or lack of awareness is evident—as is the case in narco-analysis—the applicability of Section 27 becomes highly questionable.

The Supreme Court in *Selvi v. State of Karnataka* emphatically addressed this issue by holding that involuntary administration of narco-analysis, polygraph, and brain-mapping tests violates personal liberty under Article 21 as well as the right against self-incrimination under Article 20(3). The Court observed that such techniques involve “testimonial compulsion” because they extract personal knowledge from the subject without conscious volition. It further clarified that even non-verbal responses or physiological indicators can amount to personal testimony if they convey information relevant to the investigation.

The Court also emphasized that any form of physical or psychological restraint imposed to conduct such tests constitutes an infringement of personal liberty. The involuntary nature of these techniques renders the resulting statements inherently unreliable, as they may consist of hallucinations, fantasies, or distorted recollections rather than factual truth.

The issue of voluntariness remains central to the admissibility of confessional statements. Historically, the principle was articulated in *R v. Warickshall*, where it was held that confessions obtained through fear, hope, or coercion are inherently unreliable and must be excluded. Indian law has consistently upheld this principle, requiring that confessions must be made freely, voluntarily, and in a fit mental condition. Statements obtained under narco-analysis fail to satisfy these criteria, as the administration of drugs impairs reasoning and judgment.

Another critical aspect is the status of the persons to whom such statements are made. Sections 24, 25, and 26 of the Evidence Act collectively exclude confessions made to persons in authority or while in custody. Forensic experts conducting narco-analysis tests, though not police officers in the strict sense, can be considered “persons in authority” due to their role in the investigative process and their connection with state machinery. Therefore, statements made during such tests remain inadmissible.

The concept of “custody” has also been interpreted broadly by courts to include not only formal arrest but any form of police control or surveillance. Since narco-analysis tests are conducted while the accused is under such control, the protective provisions of the Evidence Act are fully applicable. The underlying rationale is to prevent coercion and safeguard the rights of individuals against abuse of power by investigating agencies.

The argument that narco-analysis reduces the need for third-degree methods does not withstand legal scrutiny. While it may appear to be a less physically coercive alternative, it constitutes a form of psychological compulsion that undermines the autonomy and dignity of the individual. The Supreme Court has categorically rejected such justifications, emphasizing that constitutional rights cannot be compromised for the sake of investigative convenience.

The evidentiary value of confessions also depends on corroboration. Courts have consistently held that uncorroborated confessions, particularly those retracted or obtained under doubtful circumstances, cannot form the sole basis of conviction. In the context of narco-analysis, where the reliability of statements is inherently questionable, the need for independent corroboration becomes even more critical. However, given the doubtful origin of such statements, their corroborative value is minimal.

A further dimension arises in determining whether the results of such tests constitute “personal testimony.” The Supreme Court in *Selvi* clarified that even though the outputs of techniques like polygraph or brain-mapping are derived from physiological responses, they effectively communicate personal knowledge and

therefore fall within the ambit of testimonial evidence. This interpretation aligns with the broader understanding of self-incrimination, which extends beyond verbal statements to include any form of compelled communication.

#### Comparative Study in Various Jurisdictions

The admissibility and use of narco-analysis and related techniques cannot be fully understood without situating them within a comparative legal framework. Jurisdictions across the world, particularly common law countries, have evolved distinct approaches toward the right against self-incrimination, the right to silence, and the permissibility of scientific interrogation techniques. These developments provide critical insight into the Indian position and its constitutional safeguards.

#### Narco-Analysis in Common Law Countries

The legal systems of countries formerly under British rule, including India, are rooted in the traditions of English common law. The foundational principles governing criminal jurisprudence—such as presumption of innocence, burden of proof, and protection against self-incrimination—have evolved over centuries through judicial interpretation and legislative reform. While modern legal systems have adapted to changing societal needs, these foundational doctrines continue to guide the admissibility of evidence and investigative practices.

Historically, English law did not recognize the right to silence in its modern form. During the sixteenth and seventeenth centuries, courts such as the Star Chamber and the High Commission employed coercive methods, including the administration of the “*ex officio* oath,” whereby suspects were compelled to answer questions without formal charges being framed against them. Refusal to comply could invite punishment, including torture. This oppressive system eventually led to widespread criticism and was abolished by the Long Parliament, marking a significant shift toward procedural fairness.

The emergence of the right to silence is closely associated with the maxim *nemo debet prodere ipsum*, meaning that no person is bound to accuse himself. This principle gradually evolved into a fundamental tenet of common law, ensuring that an accused person

cannot be compelled to provide self-incriminating evidence. Scholars such as John Henry Wigmore have argued that this right developed somewhat incidentally following the abolition of coercive courts, while others like Maguire and Levy trace its origins to medieval criminal procedure.

Another perspective, advanced by McNair, suggests that the privilege against self-incrimination originated in Roman law and was later incorporated into English jurisprudence. Regardless of its precise origins, the right to silence has become a cornerstone of democratic legal systems, reflecting the broader commitment to fairness and individual liberty.

International human rights instruments have further reinforced this principle. The Universal Declaration of Human Rights recognizes the presumption of innocence and guarantees fair trial rights. Similarly, the International Covenant on Civil and Political Rights explicitly protects individuals from being compelled to testify against themselves. These principles are also embedded in the European Convention on Human Rights, particularly under Article 6, which guarantees a fair trial and presumption of innocence.

Despite these safeguards, modern legislative trends in some jurisdictions have diluted the strict application of the right to silence. As noted by Glanville Williams, statutory provisions in certain cases shift the burden of proof onto the accused, thereby weakening the traditional presumption of innocence. This tension between efficiency in criminal investigation and protection of individual rights is central to the debate surrounding narco-analysis and similar techniques.

#### Recent Developments in the United Kingdom

In the United Kingdom, the traditional right to silence has undergone significant modification, particularly in response to concerns over terrorism and organized crime. Legislative changes began with the Criminal Evidence (Northern Ireland) Order, 1988, which permitted courts to draw “proper inferences” from the silence of an accused under specific circumstances.<sup>4</sup>

This approach was extended to England and Wales through the Criminal Justice and Public Order Act, 1994, which introduced provisions allowing adverse

inferences to be drawn when an accused fails to mention facts during police interrogation or trial that are later relied upon in defense. However, these provisions are subject to important safeguards. Courts must first establish a prima facie case against the accused, and the right to legal counsel must be clearly communicated before any inference can be drawn.

In *Murray v. Director of Public Prosecutions*, the House of Lords emphasized that silence alone cannot form the basis of conviction and must be considered in conjunction with other evidence. The European Court of Human Rights, in *Murray v. United Kingdom*, upheld this approach, holding that limited encroachments on the right to silence do not violate fair trial guarantees, provided procedural safeguards are maintained.

Subsequent amendments, including those under the Youth Justice and Criminal Evidence Act, 1999, reinforced the requirement that suspects must be informed of their right to legal representation. Failure to provide such information renders any adverse inference invalid. Thus, while the UK permits limited use of silence as evidentiary support, it does not treat silence as substantive proof of guilt.

#### Position in the United States

The United States adopts a more stringent approach toward the right against self-incrimination. The Fifth Amendment to the Constitution guarantees that no person “shall be compelled in any criminal case to be a witness against himself.” This protection has been interpreted broadly to include both testimonial and communicative evidence.

In *Griffin v. California*, the U.S. Supreme Court held that adverse comments on the accused’s silence violate the Fifth Amendment, as they effectively penalize the exercise of a constitutional right. Similarly, in *Miranda v. Arizona*, the Court mandated that suspects must be informed of their right to remain silent and to have legal counsel present during interrogation.<sup>15</sup> These “Miranda warnings” have become a fundamental safeguard in criminal procedure.

The Court has consistently maintained that no adverse inference of guilt can be drawn from the accused’s silence. Even in *Adamson v. California*, where

differing opinions emerged, the prevailing view has evolved toward stronger protection of the right to silence.

However, certain nuances exist. In sentencing or plea bargaining contexts, courts may consider the conduct of the accused, including cooperation with authorities. This does not amount to a direct penalty for silence but reflects broader considerations of justice and rehabilitation.

The issue of narco-analysis has also been examined in U.S. jurisprudence. In *United States v. Solomon*, expert testimony acknowledged the investigative use of “truth serum,” but courts have remained cautious about its evidentiary reliability. The dominant view is that such techniques lack scientific certainty and may violate constitutional protections.

#### Comparative Analysis and Implications for India

A comparative analysis reveals that while jurisdictions differ in their approach, there is a consistent emphasis on protecting individual autonomy and preventing coerced self-incrimination. The United States adopts the strictest stance, completely prohibiting adverse inferences from silence and rejecting unreliable scientific techniques. The United Kingdom permits limited inferences but under strict procedural safeguards. International human rights instruments uniformly support the principle of voluntariness and fair trial.

India, with its constitutional guarantee under Article 20(3) and judicial interpretation in *Selvi v. State of Karnataka*, aligns more closely with the American model in rejecting involuntary narco-analysis. However, the continued use of such techniques as investigative tools reflects an ongoing tension between law enforcement objectives and constitutional values. The comparative perspective thus underscores that narco-analysis, given its questionable scientific basis and coercive nature, is incompatible with the core principles of modern criminal justice systems. The global trend clearly favors the protection of individual rights over the use of intrusive and unreliable investigative methods.<sup>5</sup>

#### CONCLUSION

The use of narco-analysis as an investigative tool in India raises serious concerns at the intersection of law, science, and constitutional rights. While technological advancements in criminal investigation are necessary, they cannot override foundational legal principles such as fair trial, voluntariness, and protection against self-incrimination.

The analysis of statutory provisions, especially the Indian Evidence Act, 1872 and the Code of Criminal Procedure, 1973, clearly demonstrates that statements obtained under narco-analysis fail to meet the requirements of admissible evidence. The absence of voluntariness, coupled with the semi-conscious mental state of the subject, undermines both the reliability and evidentiary value of such statements.

Further, constitutional protections under Article 20(3) of the Constitution of India and Article 21 of the Constitution of India strongly oppose any form of compelled testimony. The landmark judgment in *Selvi v. State of Karnataka* has conclusively held that involuntary administration of narco-analysis, polygraph, and brain-mapping tests violates fundamental rights and amounts to testimonial compulsion.

Scientifically also, narco-analysis lacks reliability. The possibility of hallucinations, false memories, and suggestibility makes the results highly questionable. Thus, even from a forensic perspective, such techniques cannot be treated as conclusive proof.

At the comparative level, jurisdictions like the United States and United Kingdom strongly uphold the right to silence and privilege against self-incrimination, limiting the use of any coercive or intrusive investigative methods. This further reinforces the position that narco-analysis is inconsistent with modern democratic legal systems.

In essence, narco-analysis represents a conflict between investigative efficiency and constitutional morality, and the latter must prevail in a rule-of-law system.

## SUGGESTIONS

1. Strict Prohibition of Involuntary Tests  
Narco-analysis and similar techniques should never be conducted without free, informed, and voluntary consent. Even with consent, their use should remain limited to investigation only, not evidence.
2. Legislative Clarity  
The legislature should enact a clear statutory framework defining:
  - Permissibility
  - Safeguards
  - Evidentiary limits  
This will remove ambiguity currently existing in practice.
3. Strengthening Conventional Investigation  
Greater emphasis should be placed on:
  - Scientific evidence (DNA, forensics)
  - Digital evidence
  - Skilled interrogation techniques rather than relying on unreliable shortcuts like narco-analysis.
4. Judicial Oversight Mechanism  
If such tests are exceptionally allowed, they must be:
  - Conducted under strict judicial supervision
  - Recorded transparently
  - Subject to independent review
5. Training of Investigating Officers  
Police officers should be trained in:
  - Psychology-based interrogation
  - Ethical investigation methods so that reliance on coercive techniques is reduced.
6. Protection of Human Rights  
Any investigative method must comply with:
  - Human dignity
  - Mental privacy
  - International human rights standards
7. Limiting Section 27 Misuse  
Courts must ensure that the exception under Section 27 of the Evidence Act is not misused to indirectly validate unconstitutional practices.

## FOOTNOTES

- [1] Gaurav Dhody, “Narcoanalysis and Its Constitutionality,” available at Manupatra, accessed on 12/01/2013.

- [2] Charles E. Sheedy, C.S.C., “Truth Drug in Criminal Investigation,” available at <http://www.cidap.gov.in>, accessed on 10/01/2013.
- [3] “Narco-analysis Test: Constitutional Validity,” available at <http://www.legalblog.in/2011/05/narco-analysis-polygraph-tests.html>, accessed on 06/01/2013.
- [4] AIR 1978 SC 1025.
- [5] Anita Pathak, “Article 20(3) of Constitution of India and Narcoanalysis: Blending the Much Awaited,” available at [www.jurisonline.in](http://www.jurisonline.in), accessed on 20/01/2013.
- [6] AIR 1954 SC 300.
- [7] *M.P. Sharma v. Satish Chandra*, 1954 Cri LJ 865; *Raja Narayanlal Bansilal v. Maneck Phiroz Mistry*, AIR 1961 SC 29; 1961 (1) SCJ 353; (1961) 1 SCR 417.
- [8] *Nandani Satpathi v. P.L. Dani*, 1978 Cri LJ 968; AIR 1978 SC 1025.
- [9] Supra n. 11, p. 7.
- [10] *Kartar Singh v. State of Punjab*, 1994 Cri LJ 3139; (1994) 3 SCC 569; (1994) 2 SCR 375; 1994 SCC (Cri) 899.
- [11] *Prabha Dutt v. Union of India*, AIR 1982 SC 6.
- [12] *D.N. Prasad v. Principal Secretary to the State of A.P., Hyderabad*, 2005 (2).
- [13] *State (N.C.T. of Delhi) v. Navjot Sandhu*, AIR 2005 SC 3820.
- [14] Section 161 of Cr.P.C., 1973 – “Any police officer making an investigation under this Chapter, or any police officer not below such rank as the State Government may, by general or special order, prescribe in this behalf, acting on the requisition of such officer.”
- [15] Ibid. The speaker, Mr. Amar Jesani, also argues that most of this inconclusive literature is not from science journals but is a result of security, intelligence, and military-sponsored agencies. The source of funding for such projects plays an important role in the objectives/findings of the research.
- [16] S. Malini and B. M. Mohan, “Narco Analysis,” Forensic Science Laboratory, Bangalore, available at

<http://bprd.gov.in/writereaddata/mainlinkFile/File1536.pdf>, accessed on 20/02/2013. The report discusses the use of narco-analysis tests in cases such as the Mumbai serial train blasts, Delhi blasts, Malegaon blasts, and Hyderabad blasts. It suggests that 20% of individuals subjected to the test were found innocent and argues that narco-analysis helps identify perpetrators, motives, conspiracies, evidentiary displacement, and innocent persons within a short period. Revelations from such tests reportedly led to discovery of incriminating information and recoveries under Section 27 of the Indian Evidence Act.

- [17] Narco Analysis is conducted by intravenously injecting Sodium Pentothal into the bloodstream. It is an ultrafast-acting anesthetic that acts within 45 seconds of injection. The process has four stages of anesthesia, and narco-analysis aims to keep the subject in the second stage, where the person is partly conscious and loses inhibitions that enable lying. Under the influence of the chemical, the subject enters a trance-like state and is induced into speaking the truth. This is based on the assumption that the cortical portion of the brain controls the ability to lie and that Sodium Pentothal impairs this function; however, this assumption lacks concrete scientific basis. Excess dosage may render the subject unconscious, leading to the third or fourth stage of anesthesia, which may result in coma or death.
- [18] 2008 Cri LJ 3992.
- [19] 1955 (2) SCR 225.

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