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Truth Machines v. Human Dignity: Admissibility of Narco-Analysis, Polygraph Test and Brain Mapping in India

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ABSTRACT

In the shadowy intersection of science and law, India's criminal justice system faces a moral crisis: Can "truth" be forcibly extracted without breaking the human spirit? This paper investigates the use of narco-analysis, polygraph tests, and brain mapping, interrogation tools rebranded as "scientific" solutions, and their stark violation of Article 20(3) of the Indian Constitution, which protects citizens from self-incrimination. Once reliant on brute force, law enforcement now employs these methods as modern-day truth machines, chemically subduing suspects or mining their subconscious for confessions. But beneath their clinical façade lies a disturbing reality: coercion dressed in lab coats.

Through doctrinal analysis of landmark cases and comparative insights from global jurisdictions, this research exposes how these techniques trample constitutional rights to mental privacy, bodily integrity, and dignity. Despite judicial bans on involuntary testing, loopholes persist. Police pressure, judicial inconsistencies, and a lack of forensic alternatives perpetuate their misuse, disproportionately harming marginalized communities, women, and juveniles.

The findings are clear that these methods lack scientific validity, produce unreliable evidence, and erode public trust. India's reluctance to ratify the UN Convention Against Torture further stains its human rights record. But these gaps can be filled and India can modernize investigations without sacrificing liberty by embracing DNA profiling, digital forensics, and accountability

reforms. This paper urges lawmakers to replace coercion with transparency, proving that justice need not come at the cost of freedom. In a democracy, the pursuit of truth must honour the values it seeks to protect or risk becoming the very tyranny it condemns.

KEYWORDS

Narco-analysis, Self-incrimination, Human rights, Scientific interrogation, Constitutional violations

INTRODUCTION

"No person shall be compelled to be a witness against himself." – This fundamental protection under Article 20(3) of the Indian Constitution stands as a shield against coercive interrogation. But it clashes violently with modern forensic techniques like narco-analysis and brain mapping, where truth is chemically or psychologically extracted rather than freely given. In 2010, India's Supreme Court delivered a landmark verdict in *Selvi v. State of Karnataka*, declaring forced narco-analysis, polygraph tests, and brain mapping unconstitutional—yet these methods persist, blurring the line between scientific investigation and state-sanctioned coercion.

This paper critically examines the legal, ethical, and constitutional dilemmas surrounding forensic interrogation techniques in India. While these tools—narco-analysis, polygraph tests, and brain mapping—are marketed as infallible "truth machines," their use raises grave concerns about violating fundamental rights under Articles 20(3) (right against self-incrimination) and 21 (right to life and privacy) of the Indian Constitution.

The early 2000s saw a surge in these techniques, fueled by high-profile cases like the Aarushi Talmur murder investigation, where narco-tests were sensationalized as breakthroughs. However, beneath the veneer of scientific progress lies a troubling reality: these methods often bypass constitutional safeguards, relying on coerced consent, unreliable science, and psychological manipulation. Globally, democracies like the U.S. and U.K. heavily restrict or outright ban such practices, recognizing their potential for abuse.

This study addresses three pivotal questions:

- Do narco-analysis, polygraph tests, and brain mapping inherently violate constitutional rights?
- How has Indian jurisprudence balanced investigative utility

with individual freedoms?

- What reforms are needed to align forensic practices with human rights standards?

Focusing on India's legal framework, the paper analyzes judicial precedents (e.g., Selvi, D.K. Basu), legislative gaps, and the disproportionate impact on marginalized groups. It employs doctrinal research, comparative analysis with international practices, and case studies to argue for rights-based reforms.

This paper contends that narco-analysis, polygraph tests, and brain mapping—unless strictly regulated—undermine constitutional guarantees, perpetuate systemic injustice, and demand urgent legislative clarity. True justice cannot be achieved by sacrificing dignity at the altar of expediency.

THIRD-DEGREE METHODS: VIOLATION OF ARTICLE 20(3)

The phrase "third-degree methods" describes harsh interrogation tactics used by law enforcement to force confessions or information from suspects, often involving physical or mental abuse.¹ In India, police have moved from crude torture tactics to more sophisticated, but equally troubling, techniques like narco-analysis (truth serum injections), polygraph tests (lie detectors), and brain mapping. Marketed as foolproof "truth machines," these methods became popular in the early 2000s as quick solutions for tough cases. Narco-analysis, rooted in the Greek word *narkō* (meaning "anaesthesia"), was originally a psychotherapy tool before being repurposed for criminal investigations.² But they often do more harm than good, trampling on a fundamental right guaranteed by our Constitution.

Article 20(3): Right Against Self-Incrimination

Our Constitution clearly states: No person accused of any offence shall be compelled to be a witness against himself." This isn't just legal jargon, it's a shield protecting innocent people from being bullied into false confessions. The Supreme Court has repeatedly upheld this right, reminding us that every person is innocent until proven guilty and that dignity matters even in criminal

¹ Keedy, E. R. (1937). The third degree and legal interrogation of suspects. University of Pennsylvania Law Review and American Law Register, 85(8), 761. <https://doi.org/10.2307/3308644>.

² White Black legal. (n.d.). Retrieved April 14, 2025, from <https://www.whiteblacklegal.co.in/public/details/critical-analysis-of-narco-analysis-and-its-maintainability-under-the-indian-constitution-from-a-legal-standpoint-by-ngamthonba-thangal->

investigations.³ This principle is encapsulated in the Latin maxim *nemo tenetur seipsum accusare*, meaning "no one is bound to accuse themselves."

- ***How Narco-Analysis, Polygraph Tests, and Brain Mapping Violate Article 20(3)***

1. ***Narco-Analysis:***

In narco-analysis, psychotropic drugs are administered intravenously to lower inhibitions and suppress critical thinking, placing the subject in a semi-conscious state.⁴ Investigators then interrogate the individual, believing that their "truthful" memories or motives will surface. However, this process directly violates Article 20(3) because the technique forces individuals to reveal thoughts and memories they might otherwise withhold, infringing on their right to mental privacy, a subset of the right to life under Article 21.

2. ***Polygraph Tests:***

Polygraph tests, or lie-detector tests, measure physiological responses (e.g., pulse rate, blood pressure, respiration) to determine the veracity of statements.⁵ But these are deeply flawed.

Physiological responses (e.g., anxiety) are not conclusive proof of deception. Innocent individuals may show stress due to fear of wrongful accusations, while trained liars can manipulate results. Subjects are often pressured into "consenting" to the test, especially in custodial settings. The Supreme Court in the Selvi case⁶ ruled that even indirect coercion (e.g., threats of prolonged detention) invalidates consent.

3. ***Brain Mapping:***

Brain mapping, or Brain Electrical Activation Profile (BEAP), uses electroencephalograms (EEG) to measure brainwave patterns when a suspect is exposed to crime-related stimuli

³ State of Maharashtra v. Bharat Chaganlal Raghani, (2001) 9 SCC 1; See also: Nandini Satpathy v. P.L. Dani, (1978) 2 SCC 424

⁴ Banerjee R and Others. (2024). Narco test is the brain mapping by psychotherapy to get information of truth. WJPMR (World Journal of Pharmaceutical and Medical Research), 10(9), 242–246

⁵ American Psychological Association. (2004). The Truth About Lie Detectors. American Psychological Association. <https://www.apa.org/topics/cognitive-neuroscience/polygraph>

⁶ Selvi v. State of Karnataka, (2010) 7 SCC 263

(e.g., images, sounds).⁷ Proponents claim it detects "guilty knowledge," but critics argue that there is no empirical proof that specific brainwaves correlate with guilt. The test assumes all suspects have identical neurological responses, ignoring factors like mental health or cultural context.⁸

By probing subconscious reactions, brain mapping bypasses conscious choice, effectively compelling individuals to "testify" against themselves through involuntary biological responses, undermining constitutional safeguards.

SCIENTIFIC BASIS AND LIMITATIONS OF NARCO-ANALYSIS, POLYGRAPH, AND BRAIN MAPPING

Techniques like narco-analysis, polygraph tests, and brain mapping are often called "scientific tools" in criminal investigations. But in reality, they are unreliable, controversial, and raise serious ethical and legal concerns.

1. Narco-Analysis

A drug like sodium pentothal is injected to put a person in a drowsy, semi-conscious state. The idea is that in this state, they can't lie and might reveal hidden truths during questioning.⁹

Limitations and Risks:

- **False Confessions:** People in this state can be easily influenced and may say anything just to please the interrogators, even false information.
- **Health Hazards:** The drug can cause serious side effects, including breathing problems or even death in some cases.
- **Violation of Human Rights:** Forcing someone to undergo narco-analysis goes against their right to privacy and personal liberty. The Supreme Court in *Selvi v. State of Karnataka*¹⁰ ruled that such tests

⁷ Editor. (2022, December 2). Brain Electrical Activation Profile (BEAP) test-Origin, Procedure and Admissibility in Law - TheLawmatics. TheLawmatics. <https://thelawmatics.in/brain-electrical-activation-profile-beap-test-origin-procedure-and-admissibility-in-law/>

⁸ Ibid.

⁹ Sherlock Institute for Forensic Science. (n.d.). Narco analysis test in criminal investigation system. www.sifs.in. Retrieved April 14, 2025, from <https://www.sifs.in/blog-details/narco-analysis-test-in-criminal-investigation-system>

¹⁰ *Supra* n 6

can't be done without consent.

2. Polygraph Tests

It measures things like heart rate, breathing, and sweating during questioning, assuming that lying causes stress which shows in the body.

Limitations and Debates:

- No Universal Stress Response: Innocent people may get nervous and seem guilty, while trained liars may stay calm and pass the test. For example, CIA-trained spies often pass polygraphs by masking stress signals.
- False Positives/Negatives: Studies show error rates as high as 15-40%, making polygraphs inadmissible in most courts globally. In India, the Supreme Court in *Selvi* (2010)¹¹ dismissed polygraph results as "unreliable" and "self-incriminatory."

3. Brain Mapping (BEAP/P300)

Electrodes are placed on the head to detect brainwaves when the person sees or hears crime-related clues.¹² A certain brain signal (P300) is believed to show recognition of a detail.

Limitations and Criticism:

- Flawed Assumptions: Just recognizing something doesn't prove guilt. For example, a journalist might recognize a crime scene without being involved.
- Ethical Concerns: It invades a person's mental privacy without clear consent.
- Pseudoscientific Backlash: Many experts and neuroscience organizations say it's not reliable enough to be used in investigations.

Though these methods seem high-tech, they are more guesswork than science. They can be manipulated, misunderstood, and misused, often leading to false confessions or rights violations. Courts have rightly rejected

¹¹ Ibid, Supra n 6

¹² Farwell, L. A. (2012). Brain fingerprinting: a comprehensive tutorial review of detection of concealed information with event-related brain potentials. *Cognitive Neurodynamics*, 6(2), 115–154. <https://doi.org/10.1007/s11571-012-9192-2>

their use as evidence in various cases. Instead, India's justice system should focus on solid, evidence-based tools like DNA analysis and digital forensics.

JUDICIAL DETERMINATIONS ON CONSTITUTIONALITY

The constitutional validity of narco-analysis, polygraph tests, and brain mapping in India has been shaped by key court rulings over the years. Judges have struggled to balance crime-solving needs with protecting individual rights, leading to a shift from early acceptance to stricter safeguards.

Post-Selvi Developments

The Supreme Court's landmark ruling in *Selvi v. State of Karnataka* (2010)¹³ redefined the constitutional boundaries of investigative techniques. Drawing parallels with global jurisprudence, such as Canada's *Horvath v. Queen* (1979)¹⁴, which warned against incentivizing coercive methods—the Court delivered a rights-centric verdict.

Key Holdings in Selvi:

- The Court held that involuntary administration of narco-analysis, polygraph, or brain mapping violates:
 - Article 20(3): Compelling self-incrimination through drugs or psychological pressure.
 - Article 21: Infringing mental privacy and bodily integrity.
- Tests may be conducted only with written, informed consent, free from custodial pressure, ensuring the principle of “*in dubio pro reo*” (when in doubt, favor the accused) is respected.
 - *Procedural Safeguards:*
 - Presence of a lawyer and medical professional.
 - Video recording of the process.
 - Prohibition on media leaks.
- Even with consent, statements or results from these

¹³ Supra n 6

¹⁴ *Horvath v. The Queen* [1979] 2 SCR 376.

tests cannot be used as evidence under:

- Section 23(1) of the Bharatiya Sakshya Adhiniyam: Bars confessions made to police.
- Proviso to section 23: Allows only facts discovered (e.g., weapons) to be admissible, not the accused's statements.

The Court reasoned that subjects lack control over their responses under sedation or stress, rendering such statements unreliable.

• ***Post-Selvi Reinforcement: Closing Loopholes***

Since the landmark Selvi ruling, courts have doubled down on the importance of consent and individual rights in criminal investigations. In *Ritesh Sinha v. State of Uttar Pradesh* (2019)¹⁵, the Supreme Court took things a step further by ruling that voice samples can't be taken by force. This built on Selvi's core idea that no one should be compelled to give up biometric evidence.

Indian courts have drawn a clear line that narco-analysis, polygraphs, and brain mapping violate fundamental rights. In the 2010 *Sidhartha Vashisht* case¹⁶, the Delhi High Court refused to allow narco-tests in a high-profile murder, declaring that constitutional rights outweigh investigative shortcuts.

The landmark Selvi ruling changed the game. It banned forced interrogations and demanded real consent. The Supreme Court made it clear that justice isn't served by ignoring coercion.

ETHICAL AND HUMAN RIGHTS CONCERNS

Narco-analysis, polygraphs, and brain mapping might sound like cutting-edge crime-solving tools, but they come at a heavy cost—our basic rights. These methods strip away bodily autonomy, mental privacy, and human dignity, treating people like lab experiments rather than human beings.

¹⁵ *Ritesh Sinha v. State of U.P.*, (2019) 8 SCC 1

¹⁶ *Sidhartha Vashisht v. State* (NCT of Delhi), (2010) 6 SCC 1.

• ***Ethical Issues***

1. *Bodily Integrity and Mental Privacy*

Narco-analysis forces drugs into a person's veins, altering their mind against their will. The Supreme Court called this an affront to human dignity. Brain mapping and polygraphs dig into subconscious thoughts, turning private memories into police evidence.¹⁷ As the maxim "ex turpi causa non oritur actio" (no action arises from a dishonourable cause) suggests, the use of such invasive techniques is ethically problematic.

2. *Coercion in Obtaining "Consent"*

In police custody, "consent" is often given under pressure—fear, confusion, or just wanting the ordeal to end. Many suspects, especially from poor or marginalized backgrounds, don't fully understand what they're agreeing to.¹⁸ Safeguards like lawyers and doctors are supposed to protect them, but these rules are often ignored.

• ***Human Rights Violations***

1. *Link to Torture Under International Law*

The UN defines torture as any method that inflicts severe mental or physical pain to extract information. Narco-analysis and polygraphs, which induce fear, stress, or forced sedation, fit this definition.

India has signed global treaties against torture but hasn't fully committed to banning these practices.¹⁹

2. *Conflict with Dignity Under Article 21*

Article 21 of our Constitution protects not just life and liberty, but also dignity and privacy. The Supreme Court has ruled that forcing these tests reduces people to "objects of investigation."

¹⁷ Nair, A. (2023). The Investigative Approach Of Narco-Analysis And Its Ethical Dilemmas [Journal-article]. International Journal of Novel Research and Development, 8(6), e174–e175.

<https://www.ijnrd.org/papers/IJNRD2306423.pdf>

¹⁸ Jesani, A., & Jagadeesh, N. (2007). Narco analysis leads to more questions than answers. In MCI, Indian Journal of Medical Ethics: Vol. IV (Issue 1, p. 9). <https://ijme.in/wp-content/uploads/2016/11/1229-5.pdf>

¹⁹ Aston, J. N. (2020). Narco-analysis. In Oxford University Press eBooks (pp. 62–70). <https://doi.org/10.1093/oso/9780190120986.003.0003>

Survivors of trauma, like rape victims forced into polygraph tests, suffer all over again—justice shouldn't come at the cost of re-traumatization.

- ***Case Study: The Aarushi Talwar Murder Investigation²⁰***

The 2008 murder of Aarushi Talwar drew national attention, not just for the crime involved, but for how the investigation unfolded. Key issues included:

- Use of Narco-Analysis on Parents: Her parents, Rajesh and Nupur Talwar were put through narco-analysis tests amid mounting media pressure and public outrage. Critics argue the tests were more about calming the public than uncovering the truth.
- Coercion and Media Sensationalism: The Talwars claimed they were pressured into taking the tests. Their drugged statements were even broadcast on national television. This violated their privacy and also undermined their right to be presumed innocent.
- Outcome: The tests revealed nothing concrete. Yet, the emotional toll and damage to their reputation were immense.

As the Supreme Court warned in *Selvi*²¹, and as Martin Luther King Jr. once said: "The means we use must be as pure as the ends we seek." Shortcut investigations that violate rights don't deliver justice—they undermine it.

INTERNATIONAL PRACTICES AND INDIA'S COMPLIANCE

Different countries draw very different lines on narco-tests and polygraphs. Some ban them completely to protect human rights, while others allow limited use under strict conditions. This section compares practices in the U.S., U.K., and EU with India's approach, assessing how well India aligns with international human rights standards.

- ***Comparative Analysis of Global Practices***

- I. *United States*

U.S. courts take a hard line on what counts as real evidence. Because of the landmark cases of *Frye v. United*

²⁰ Dr. Smt. Nupur Talwar v. State of U.P. (2017) (10 ADJ 586 (DB))

²¹ *Supra* n 6.

States (1923)²² and *Daubert v. Merrell Dow* (1993)²³, judges can throw out anything that doesn't meet strict scientific standards.

The U.S. Supreme Court in *United States v. Scheffer* (1998)²⁴ upheld a ban on polygraphs in military courts, citing their questionable reliability.²⁵ Narco-analysis is rarely used and considered unethical by bodies like the American Medical Association. Courts treat any evidence obtained this way as forced and inadmissible.

II. *United Kingdom*

In the UK, laws like the Police and Criminal Evidence Act (PACE), 1984²⁶ strictly ban coercive interrogation techniques. Section 76 makes sure that any confession given under pressure can't be used in court. Polygraphs are only used in limited situations, such as monitoring released sex offenders, and even then, the results can't be the sole reason for legal action.²⁷

These rules align with the European Convention on Human Rights (ECHR), which forbids torture or degrading treatment (Article 3).

III. *European Union*

The EU follows strict human rights standards. Article 3 of the ECHR bans any form of torture or inhumane treatment. In *Jalloh v. Germany* (2006)²⁸, the ECHR made this crystal clear when they ruled even forcing a suspect to vomit drugs counted as torture. Many EU countries, including France and Germany, have banned narco-tests

²² *Frye v. United States* (1923) 293 F. 1013 (D.C. Cir. 1923)

²³ *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) 509 U.S. 579 (1993)

²⁴ *United States v. Scheffer* 523 U.S. 303 (1998)

²⁵ Christina Majaski. (2023). Are Lie Detector Tests Admissible in Court? Retrieved April 15, 2025, from

https://www.lawinfo.com/resources/criminal-defense/are-lie-detector-tests-admissible-in-court.html#what_states_allow_polygraph_tests_in_court

²⁶ Police and Criminal Evidence Act 1984 (PACE) codes of practice. (2023, December 20). GOV.UK. <https://www.gov.uk/guidance/police-and-criminal-evidence-act-1984-pace-codes-of-practice>

²⁷ Polygraph testing measures in the Police, Crime, Sentencing and Courts Bill: Equalities Impact Assessment. (2023, August 2). GOV.UK. <https://www.gov.uk/government/publications/police-crime-sentencing-and-courts-bill-2021-equality-statements/polygraph-testing-measures-in-the-police-crime-sentencing-courts-bill-equalities-impact-assessment>

²⁸ *Jalloh v. Germany* App no 54810/00 [2006] ECHR 721

and polygraphs entirely in criminal cases.²⁹

- ***India's International Obligations: Gaps and Progress***

While countries like France and Germany completely ban narco-tests and polygraphs, India walks a tighter rope. India signed the UN Convention Against Torture (UNCAT) back in 1997 but still hasn't ratified it. This delay has drawn criticism from global bodies.

India is a signatory to the International Covenant on Civil and Political Rights (ICCPR), which protects individuals from torture (Article 7) and ensures fair trials (Article 14). The Supreme Court referred to these protections in *Selvi v. State of Karnataka* (2010)³⁰ banning forced narco-tests, aligning with global standards.

The Universal Declaration of Human Rights (UDHR) also bans torture (Article 5) and upholds privacy (Article 12), both of which echo India's constitutional protections under Article 20(3) and Article 21.

But in practice, the gap remains wide. Without ratifying UNCAT and with poor enforcement of the *Selvi* guidelines, many people are still vulnerable to coercive tactics and privacy violations.

- ***India's Position in the Global Context***

Progressive Judiciary:

India's judiciary has taken important steps toward protecting individual rights, especially in the landmark *Selvi* case banned forced narco-tests and championed privacy rights, putting India's legal framework on par with progressive nations. Judges even looked to global precedents, recognizing that coercion has no place in justice.

Regressive Practices:

Yet reality lags. Some courts still approve these dubious methods, like the *Rojo George v. Deputy SP* (2006)³¹ case that greenlit narco-tests. Without strong data protection laws (like Europe's GDPR), sensitive brain mapping results risk becoming tools for abuse rather than justice.

²⁹ Mallick, A., & Ganguli, P. (2024). Unveiling the truth: Admissibility of truth serum tests in Indian legal proceedings. SSRN Electronic Journal.

<https://doi.org/10.2139/ssrn.5019889>

³⁰ Supra n 6

³¹ *Rojo George v. Dy. Superintendent Police*, 2006 SCC OnLine Ker 100

Therefore, India needs to walk the talk and ratify the UN anti-torture treaty, strengthen the Selvi guidelines into law, and learn from global best practices. As European judges wisely noted, we can't break human rights to enforce the law. True justice demands both effective policing and uncompromising protection of dignity. Our system must close this gap to earn global respect.

CONSTITUTIONAL AND LEGAL PROVISIONS

In India, the use of narco-analysis, polygraph tests, and brain mapping is limited by strong constitutional protections that defend individual rights, even during criminal investigations.

I. Article 20(3): Protection Against Self-Incrimination

“No person accused of any offence shall be compelled to be a witness against himself.”

This fundamental protection goes beyond just verbal confessions to include modern interrogation tricks like narco-tests and lie detectors that hijack your free will. As the maxim *nemo tenetur seipsum accusare* (no one is bound to accuse himself) underscores, a suspect cannot be forced to provide self-incriminating evidence.

Key Judgments:

- In *Selvi v. State of Karnataka* (2010)³², the Supreme Court ruled that using these tests without consent violates Article 20(3), as they make a person reveal thoughts involuntarily.
- In *State of Bombay v. Kathi Kalu Oghad* (1961)³³, the Court clarified that while physical evidence like fingerprints is allowed, extracting mental responses, like drug-induced confessions, is not.

For instance, if someone is given sodium pentothal and reveals information under its influence, it's considered unconstitutional, as their mental control has been chemically overridden. Your mind belongs to you, not the police.

II. Article 21: Right to Life, Liberty, and Privacy

“No person shall be deprived of his life or personal liberty

³² Supra n 6

³³ *State of Bombay v. Kathi Kalu Oghad*, (1962) 3 SCR 10

except according to procedure established by law.”

In *K.S. Puttaswamy v. Union of India*³⁴, the Supreme Court recognized privacy as a fundamental right under Article 21.

Mental Privacy: Techniques like brain mapping intrude into an individual’s subconscious thoughts, violating the right to keep one’s mind free from state intrusion.

- **Bodily Integrity:** Administering drugs (narco-analysis) or attaching sensors (polygraph) without consent infringes on bodily autonomy.

For example, subjecting a rape survivor to a polygraph test without her free consent violates her dignity and privacy.

III. The Bharatiya Sakshya Adhiniyam, 2023

The Act regulates the admissibility of evidence, with specific provisions addressing coerced confessions:

- **Section 22:** A confession is not valid if made due to threat, pressure, or promise from someone in authority unless the court believes such influence has been fully removed. (*Akin to Section 24 of the Indian Evidence Act, 1872*)
- **Section 23(1):** A confession made to a police officer is inadmissible as evidence against the accused. (*Akin to Section 25 of the IEA, 1872*)
- **Section 23(2):** A confession made while in police custody is not admissible unless it was made in the immediate presence of a Magistrate. (*Akin to Section 26 of the IEA, 1872*)
- **Proviso to Section 23:** If any material fact is discovered based on the information given by the accused in police custody, then that part of the statement which directly relates to the discovery is admissible. (*Akin to Section 27 of the IEA, 1872*)

But the Supreme Court in *Selvi* clarified that statements from narco-analysis/polygraph tests cannot trigger Section 27 of the Indian Evidence Act, 1872 as they lack voluntariness.

Thus, if a suspect, under the influence of narco-analysis,

³⁴ *K.S. Puttaswamy v. Union of India*, (2018) 1 SCC 809

indicates where a hidden murder weapon is located, that information cannot be admitted in court. Such evidence is unreliable and unlawful as *ex turpi causa non oritur actio* (no legal action arises from an immoral act).

IV. The Bharatiya Nagarik Suraksha Sanhita, 2023

The BNSS outlines procedures for police investigations, emphasizing voluntariness:

- **Section 180:** Allows police to question witnesses, but the individual cannot be compelled to answer. This provision implicitly bars coercive techniques like polygraph tests during preliminary investigations. The statements can be recorded in writing or by video, and women victims of certain offences must be interviewed by a woman officer. (*Akin to Section 161 of Code of Criminal Procedure, 1973*)
- **Section 183:** A Magistrate can record a confession or statement during the investigation, but only if it's made voluntarily after informing the person of their rights; in serious or sensitive cases, statements of victims must be recorded quickly, preferably by a woman Magistrate, and special care is taken if the person is disabled. (*Akin to Section 164 of CrPC, 1973*)

If the police use a polygraph test during a Section 180 examination, it goes against the purpose of the law. Section 180 is meant to allow people to share what they know freely and truthfully. But a polygraph test puts pressure on the person and may force them to speak out of fear, not choice. This breaks the rule that answers must be given voluntarily, without any force or fear, so it violates the spirit of the law.

- **Conflict and Resolution**

While the Bharatiya Sakshya Adhiniyam, 2023, and Bharatiya Nagarik Suraksha Sanhita, 2023 empower investigators, constitutional rights under Articles 20(3) and 21 act as checks. When there's a conflict between these powers and rights, the courts have made it clear that fundamental rights must come first.

Even if the police say that tests like narco-analysis or polygraphs help solve cases faster, the Supreme Court in *Selvi* said that we cannot ignore constitutional rights just to make investigations easier.

The courts have set clear ground rules to protect these rights. These controversial tests can only happen with proper written consent, given freely without any pressure. A lawyer and doctor must be present to ensure everything's above board.

This creates a careful balance in the Indian justice system. While investigators have tools to solve crimes, Articles 20(3) and 21 read with evidence laws act as crucial safeguards. At its heart, India's legal framework recognizes that true justice isn't just about catching criminals but it's about protecting what makes us human in the process. The scales of justice must weigh both security and liberty equally.

CASE STUDIES AND JUDICIAL INCONSISTENCIES

The admissibility of narco-analysis, polygraph tests, and brain mapping in India has been shaped by landmark judgments and marred by contradictory rulings. While progressive decisions like *Selvi v. State of Karnataka* (2010) and *D.K. Basu v. State of W.B.* (1997) established constitutional safeguards, inconsistencies in judicial application reveal a troubling gap between principle and practice.

- ***Landmark Cases***

- I. ***Selvi v. State of Karnataka (2010)***³⁵:

Facts: Multiple petitions challenged the involuntary use of narco-analysis, polygraph, and brain mapping.

Holding: The Supreme Court declared these techniques unconstitutional if conducted without consent, violating:

- Article 20(3): Compelled self-incrimination through drugs or psychological pressure.
- Article 21: Rights to mental privacy, dignity, and bodily integrity.

Key Reasoning: Even with consent, results are inadmissible under Section 27 of the Indian Evidence Act because subjects lack mental control during tests. The Court cited Canada's *Horvath v. Queen* (1979), warning that reliance on coerced statements incentivizes torture.

³⁵ Supra n 6

II. **D.K. Basu v. State of W.B. (1997)³⁶:**

Context: Custodial torture and deaths prompted guidelines to prevent police brutality.

Relevance: While not directly addressing narco-analysis, this case laid the foundation for condemning coercive interrogation. The Court mandated safeguards like legal aid and medical examinations, later echoed in Selvi.

• **Judicial Inconsistencies: Post-Selvi Deviations**

Despite Selvi's clarity, courts have occasionally permitted these tests, exposing contradictions:

I. **Rojo George v. Deputy Superintendent of Police (Kerala High Court)³⁷:**

Facts: The court allowed narco-analysis to solve a high-profile murder, arguing traditional methods were "futile" against "sophisticated crimes."

Contradiction: This directly violated Selvi's mandate, prioritizing investigative convenience over constitutional rights. The ruling ignored the inherent coercion in custodial settings, where "consent" is often illusory.

II. **KM. Seema Azad v. State of Uttar Pradesh³⁸:**

Facts: A narco-analysis test on an accused, Vijay Sen, led to the arrest of a minister, Anand Sen, in a murder case. The confession was extracted despite Selvi's safeguards.

Issue: The case highlighted how police misuse these tests to bypass due process. Even post-Selvi, investigators and courts treated results as credible, disregarding their inadmissibility.

• **Contrasting High Court Rulings**

Some High Courts have taken a progressive stand to protect individual rights. For example, in XYZ v. The State NCT of Delhi³⁹, the Delhi High Court criticized the trial court for suggesting a polygraph test on rape survivors. The Court said

³⁶ Dilip Kumar Basu v. State of W.B., (1998) 6 SCC 380

³⁷ Supra n 31

³⁸ Seema Azad v. State of U.P., 2013 SCC OnLine All 2858

³⁹ XYZ v. The State NCT of Delhi W.P.(CRL)-3777/2023 CRL.M.A. 35137/2023 CRL.M.A. 5769/2025.

such tests would violate the survivor's dignity, which is protected under Article 21 of the Constitution.

However, other courts have taken a more questionable approach and regressive approaches. In the Sidhartha Vashisht case (2010)⁴⁰, linked to the Jessica Lal murder, the Delhi High Court initially allowed narco-analysis. But later, due to public backlash and legal concerns, the Court changed its stance and withdrew the permission.

India's judiciary faces pressure to balance crime-solving with rights protection. While Selvi aligned India with global human rights norms, cases like Rojo George⁴¹ reflect a lingering bias toward "efficiency" over ethics.

• ***Conflict with the Right to Silence***

The Supreme Court in Nandini Sathpathy v. P.L. Dani (1978)⁴² affirmed that the right to silence is integral to Article 20(3). Narco-analysis and polygraph tests violate this right by forcibly extracting information, rendering confessions inadmissible. Yet, as seen in KM. Seema Azad, investigators continue exploiting these methods, treating them as shortcuts to secure convictions.

Thus, landmark cases like Selvi and D.K. Basu showcase India's constitutional commitment to human dignity. However, inconsistent rulings and police practices reveal systemic flaws. To uphold the spirit of Selvi, courts must:

- Strictly enforce consent safeguards.
- Dismiss evidence from these tests, even if "voluntarily" obtained.
- Prioritize alternatives like DNA forensics and digital evidence.

As Louis D. Brandeis, former U.S. Supreme Court Justice, quoted, "Crime is contagious. If the government becomes a lawbreaker, it breeds contempt for law."⁴³ India's judiciary must heed this warning to ensure justice does not come at

⁴⁰ Supra n 16

⁴¹ Supra n 31

⁴² Nandini Satpathy v. P.L. Dani, (1978) 2 SCC 424

⁴³ Delia, J. (2024, June 30). If the government becomes a lawbreaker, it breeds contempt for the law. The Critical Angle Project.

<https://cap.mt/2024/06/30/if-the-government-becomes-a-lawbreaker-it-breeds-contempt-for-the-law/>

the cost of liberty.

IMPACT ON VULNERABLE POPULATIONS

These interrogation techniques don't affect everyone equally - they hit marginalized communities, women, and children the hardest. Already disadvantaged groups face greater risks of coercion and trauma from these invasive procedures.

I. Marginalized Communities

For India's poor and minorities, the system stacks the odds higher. Many don't understand their rights or the medical dangers of undergoing such tests.⁴⁴ Some, like in the Nithari case, get pressured into "consenting" just to escape police harassment. This creates a cycle of mistrust, where affected communities hesitate to approach law enforcement at all.

II. Gender-Specific Concerns

Women face special indignities. Sexual assault survivors have been subjected to humiliating polygraph tests - not to find the truth, but to question their credibility. The Aarushi-Hemraj murder case⁴⁵ also highlighted issues where details from such tests were leaked which leads to further trauma.

III. Juveniles

Minors are still growing mentally and emotionally, so they are more vulnerable to pressure and long-term harm from tests like narco-analysis and polygraphs.

Since children can't legally give informed consent, any agreement they make without a parent or lawyer isn't valid.

These tests can also seriously affect a child's mental health. Drugs used in narco-analysis or the stress of

⁴⁴ Barnwal, A. Kr. & Dr.S.N.Ambedkar. (2014). Narco-analysis Test: An analysis of various Judgements of Indian Judiciary. IOSR Journal of Humanities and Social Science (IOSR-JHSS), 19(10), 52-57.
<https://www.iosrjournals.org/iosr-jhss/papers/Vol19-issue10/Version-1/H0191015257.pdf>

⁴⁵ Rattanpal, D., & Rattanpal, D. (2017, October 12). The curious case of narco tests in Aarushi-Hemraj murder mystery. TheQuint.
<https://www.thequint.com/news/india/the-curious-case-of-narco-tests-in-aarushi-hemraj-murder-mystery>

polygraph tests may cause trauma, and experts say it can lead to anxiety, fear of authority, or lasting trust issues.

Therefore, these aren't just investigative tools, they're weapons that disproportionately target those least able to defend themselves. True justice should protect the vulnerable, not exploit their vulnerability.

- **Broader Implications**

These practices violate constitutional guarantees meant to protect vulnerable groups:

- Article 21: The right to dignity and mental privacy is shattered when marginalized individuals, survivors, or juveniles are treated as mere "subjects" of interrogation.
- Article 20(3): Coerced tests force self-incrimination, exploiting the vulnerabilities of those least able to resist.

Thus, India's criminal justice system must recognize that narco-analysis, polygraph tests, and brain mapping are not neutral tools, they are weapons of power that disproportionately target the marginalized. As the Supreme Court noted in *Nandini Sathpathy v. P.L. Dani* (1978)⁴⁶ the right to silence is a sanctuary for the vulnerable. Protecting this sanctuary is essential to ensuring justice does not become another form of oppression.

PROCEDURAL SAFEGUARDS AND PRIVACY RIGHTS

Though narco-analysis, polygraph tests, and brain mapping are supposed to follow strict rules in India, gaps in how these rules are enforced raise serious concerns about fairness and privacy.

- **Existing Safeguards**

The National Human Rights Commission (NHRC) laid down key rules: medical supervision during tests, written and voluntary consent with legal counsel present, and video/audio recordings of the process for transparency.⁴⁷ The *Selvi* judgment (2010)⁴⁸

⁴⁶ Supra n 42.

⁴⁷ Sajikoduvath, V. a. P. B. (2022, April 10). Polygraph, narco analysis and brain mapping tests in criminal investigation. Saji Koduvath Associates. <https://indianlawlive.net/2021/10/15/polygraphy-narco-analysis-and-brain-mapping-tests-in-criminal-investigati-on/>

⁴⁸ Supra n 6

backed these safeguards, emphasizing that consent must be clear and freely given.

- ***Gaps in Implementation***

Despite formal safeguards, practical challenges persist:

1. Custodial Pressure: Many suspects, especially from marginalized groups, are pressured into "agreeing" while in custody, often without access to a lawyer.
2. Lack of Oversight: Tests are sometimes conducted without proper documentation or medical care. In the 2008 Bangalore blasts case, brain mapping was done without proper safeguards.
3. Judicial Lapses: Some courts still allow these tests based on questionable consent, as seen in *Rojo George v. Deputy SP* (2006)⁴⁹, where urgency took precedence over rights.

- ***Privacy Concerns***

The Supreme Court made history in *K.S. Puttaswamy* ruling (2017)⁵⁰ by declaring right to privacy as a fundamental right under the Constitution. Yet brain mapping and narco-tests continue to violate this very principle, rummaging through people's minds and bodies without proper safeguards. The scary part is that most private thoughts could be recorded, there's no strong law protecting this sensitive data and unlike Europe's GDPR, India has no real system to prevent misuse.

India needs urgent fixes, like independent monitors in police stations, guaranteed lawyers for every suspect, and a proper data protection law.

CIRCUMSTANCES WHERE THESE TESTS CAN BE ADMISSIBLE

While narco-analysis, polygraph tests, and brain mapping are largely deemed unconstitutional and unreliable in India, there are narrowly defined circumstances where courts and investigators have permitted their use, often balancing public interest with procedural safeguards.

- ***Voluntary Consent in Public Interest Cases***

The Supreme Court in *Selvi v. State of Karnataka* (2010)⁵¹ clarified that voluntary administration of these tests is

⁴⁹ Supra n 31

⁵⁰ Supra n 34

⁵¹ Supra n 6

permissible under strict conditions. This exception allows these tests only when done voluntarily, in cases that serve the greater public interest, but with strict safeguards to protect individual rights.

Courts have allowed these tests in cases involving national security or large-scale investigations, as long as the person consents. For example, in the *State of Maharashtra v. Abdul Karim Telgi* (2006)⁵² case, the accused voluntarily agreed to narco-analysis in connection with a major stamp paper scam. Although the results couldn't be used in court, they helped investigators find crucial evidence.

In situations like mass disasters or missing persons brain mapping can be used with consent to help find missing people, prioritizing public welfare while respecting legal limits.

- ***Exonerating the Innocent***

In rare instances, courts in India have permitted the use of investigative techniques like polygraph tests to help prove a person's innocence, provided the individual consents voluntarily and the results are used appropriately.

In certain cases, victims or witnesses may choose to undergo investigative tests like polygraph tests to support their statements and enhance their credibility. However, it's important to note that the results of such tests are not automatically accepted as conclusive evidence. Courts exercise caution in interpreting physiological responses and ensure that any information obtained is corroborated by other admissible evidence.

Therefore, while investigative tests can be used in exceptional circumstances to assist in proving innocence, they must be conducted voluntarily, with informed consent, and under strict legal safeguards to protect individual rights.

- ***Forensic Corroboration Under Section 23 Proviso, BSA***

While statements from these tests are inadmissible, physical evidence discovered through them may be permissible under Section 23. For instance, if a narco-analysis revelation leads investigators to a murder weapon, the weapon (not the statement) becomes admissible.

⁵² *State of Maharashtra v. Abdul Karim Telgi*, [2007] 2 S.C.C. 200 (India)

Safeguards for Contextual Permissibility

For limited admissibility, courts mandate:

- **Informed Consent:** Documented in writing, with legal counsel and medical professionals present.
- **Judicial Oversight:** Prior court approval, ensuring tests are non-invasive and necessary.
- **Non-Reliance on Results:** Outcomes cannot substitute evidence but may guide investigations.
- **Privacy Protections:** Data must be securely stored and destroyed post-trial.

While these techniques remain ethically and legally fraught, their contextual use when voluntary, non-coercive, and subject to judicial scrutiny reflects a pragmatic balance between rights and investigative needs. However it is important to note that exceptions must not become the norm. India's judiciary must tread cautiously, ensuring safeguards are non-negotiable and public interest is narrowly defined.

ALTERNATIVES AND REFORMS

The reliance on these tests reflects systemic weaknesses in India's criminal justice system. To replace these coercive methods and uphold constitutional rights, reforms must be made, prioritizing evidence-based forensic tools, legislative clarity, and institutional capacity-building.

• Modern Forensic Tools

1. **DNA Profiling:** DNA analysis identifies unique genetic markers from biological samples (e.g., blood, hair, saliva). The advantages are as follows:
 - **Accuracy:** DNA evidence has a near-zero error rate when processed correctly.
 - **Non-Intrusive:** Unlike narco-analysis, it does not violate bodily or mental integrity.

In the 2012 Delhi gang-rape case, DNA evidence conclusively linked perpetrators to the crime, leading to convictions without coerced confessions.

2. **Digital Forensics:** Retrieving data from devices (e.g., phones, laptops), tracing cybercrimes, verifying digital

footprints. The advantages are as follows:

- **Objectivity:** Digital evidence (e.g., timestamps, GPS data) is less susceptible to manipulation.
- **Scalability:** Critical for tackling cybercrimes, which saw a 63.5% increase in India in 2019.⁵³

The 2020 Bitcoin scam in Karnataka was cracked using blockchain analysis and IP tracking.⁵⁴

3. **CCTV and Surveillance Footage:** It provides real-time, unbiased accounts of crimes. It reduces reliance on confessions by corroborating witness testimonies. In the 2008 Mumbai attacks, CCTV footage from hotels and streets helped identify terrorists and reconstruct timelines.

- **Legal Reforms**

1. **Legislative Codification of Selvi Guidelines:** Although the Selvi judgment (2010)⁵⁵ laid down clear rules against forced narco-analysis and similar tests, these aren't part of any law yet—making enforcement patchy. To fix this, laws like the Bharatiya Sakshya Adhinyam (BSA) and Bharatiya Nagarik Suraksha Sanhita (BNSS) should be amended to:
 - Clearly ban involuntary use of narco-tests, polygraphs, and brain mapping.
 - Define “voluntary consent,” including the need for legal help and medical supervision.
2. **Training Investigators in Rights-Based Techniques:** Many police officers still rely on outdated, confession-driven methods. This can lead to coercion. To improve this:
 - **Update Training:** Police academies should add new modules on forensic science, cyber investigations,

⁵³ Neeta Sharma. (2020). Digital India sees 63.5% increase in cyber crime cases, shows data. NDTV. Retrieved April 15, 2025, from <https://www.ndtv.com/india-news/digital-india-sees-63-5-increase-in-cyber-crime-cases-shows-data-2302958>

⁵⁴ Digest, F. (2024, July 26). New forensic report unveils major twist in Karnataka Bitcoin Scam -. Forensics Digest. <https://forensicsdigest.com/new-forensic-report-unveils-major-twist-in-karnataka-bitcoin-scam/>

⁵⁵ Supra n 6

and human rights.

- Workshops: Collaborate with groups like the Commonwealth Human Rights Initiative (CHRI) to teach safe and respectful ways to question suspects.

Like, Kerala's Janamaithri Suraksha Project, launched in 2008, trains police in community policing and ethical forensic practices.⁵⁶

- ***Case Study: The Nirbhaya Fund Model***

The Nirbhaya Fund, established after the 2012 Delhi gang rape, finances projects like DNA analysis facilities and cybercrime cells. This model demonstrates how targeted investments can replace coercive methods with science-driven justice.⁵⁷

Thus, India's criminal justice system stands at a crossroads. As the Supreme Court noted in *K.S. Puttaswamy* (2017)⁵⁸ the right to privacy is a safeguard against authoritarianism. By adopting these reforms, India can ensure its investigative methods reflect constitutional morality, not coercion.

CONCLUSION

In the unyielding quest for truth, justice cannot become a casualty of haste. This research has revealed a harsh truth: methods such as narco-analysis, polygraph tests, and brain mapping—often hailed as groundbreaking advancements—often violate the rights they are supposed to safeguard. These methods compel individuals to surrender their thoughts under duress, thereby fracturing the constitutional protection of Article 20(3) against self-incrimination and undermining the right to dignity and mental privacy guaranteed by Article 21. The landmark *Selvi* judgment by the Supreme Court in 2010 was a beacon of hope, acknowledging these dangers and requiring safeguards such as informed consent and procedural transparency. Yet, cases such as the Aarushi Talwar investigation demonstrate that the gap between judicial ideals and actual practices on the ground is still

⁵⁶ Janamaithri Suraksha Project and other Community Policing Models in India. (2016, April 11). Janamaithri Suraksha Project and other Community Policing Models in India. Retrieved April 15, 2025, from <https://www.gktoday.in/janamaithri-suraksha-project-and-other-community-policing-models-in-india/>

⁵⁷ Ministry of Women & Child Development. (2020). FRAMEWORK FOR NIRBHAYA FUND. In Ministry of Women & Child Development. https://aicte-india.org/sites/default/files/nirbhaya_fund.pdf

⁵⁸ Supra n 34

dangerously vast.

The results are clear-cut: in the absence of strict regulation, these tests could risk establishing state overreach as normal. Although courts are theoretically progressive, they frequently fail in practice. This dissonance is exemplified by the Rojo George ruling, which allowed narco-analysis under the guise of “investigative necessity.” Such inconsistencies highlight an urgent reality: legislative clarity is essential. It is necessary for the Bharatiya Sakshya Adhiniyam and Nagarik Suraksha Sanhita to clearly establish the Selvi safeguards, converting judicial wisdom into a binding law. It is equally crucial to deconstruct the myth of “voluntary consent” in custodial settings, where power imbalances make free choice an illusion, especially for marginalized communities, women, and minors.

But it is not enough to rely solely on legal reform. The criminal justice system in India needs to face its reliance on shortcuts. The temptation of rapid confessions has eclipsed the development of trustworthy tools that respect human rights, such as DNA profiling and digital forensics. It is vital to train investigators in ethical interrogation, enhance forensic infrastructure, and protect vulnerable groups from coercion. These actions are not optional; they are essential. The Nirbhaya Fund has successfully advanced forensic capabilities, demonstrating that there are alternatives; what is missing is systemic will.

In the end, it comes down to a fight for justice’s soul. With the advancement of forensic science, India faces a crucial phase, will it use technology as a weapon to undermine freedom, or will it leverage technology to promote justice? The key is to understand that each confession obtained through coercion and every mind that has been violated undermine the law’s legitimacy. Justice is not about rushing to the end, but about dedicating oneself to walking the path with integrity. It is crucial to understand that the Constitution is not just a simple rulebook; it represents a mutual trust agreement between the citizen and the state. In order to honour that trust, India must opt for ethics rather than expediency, because true justice cannot be based on infringed rights. Nothing less will do for the scales of justice.