



Unveiling The Truth: Admissibility Of Truth Serum Tests In Indian Legal Proceedings:

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Abstract:

The use of "truth serum" tests, also known as narco-analysis, has sparked considerable debate in the context of Indian legal proceedings. These tests involve administering drugs to induce a state of semi-consciousness in which a subject may be more likely to disclose information. While often perceived as a tool for extracting hidden truths, the admissibility and reliability of such tests in court remain contentious. This paper explores the legal, ethical, and constitutional challenges surrounding truth serum tests in India, particularly in light of landmark judgments by the Supreme Court and various high courts. The Constitution of India, under Article 20(3), provides protection against self-incrimination, raising concerns about the voluntary nature of such tests and their alignment with fundamental rights. Furthermore, the scientific validity of narco-analysis and its potential for coercion cast doubt on its reliability as evidence. Through a critical analysis of legal precedents and evolving jurisprudence, this paper seeks to unveil the complexities of integrating truth serum tests into India's legal framework and examines the balance between investigative necessity and safeguarding individual rights.

Keywords:

Truth Serum Test, Forensic Examination, Evidentiary Value, right to freedom, forensic science in criminal examinations, Right to privacy, Human rights violations.

Introduction-Brief overview of truth serum and their use in investigations

Truth serum, commonly referred to as **narco-analysis**, involves the administration of drugs, typically barbiturates like sodium pentothal, to induce a semi-conscious or hypnotic state in a subject. In this state, it is believed that the individual may become more likely to reveal hidden information or truth that they would otherwise conceal. The subject is thought to lose voluntary control over their thoughts and become more responsive to questioning, making it a controversial tool in criminal investigations.

¹ AIR 2010 SUPREME COURT 1974, 2010 (7) SCC 263, 2010 AIR SCW 3011, 2010 (3) AIR KANT HCR 19, (2011) 2 BOMCR(CRI) 473, (2010) 3 ALLCRILR 605, (2010) 1 CRILR(RAJ) 510, (2010) 2 CURCRIR 311, (2010) 2 RAJ LW 1688, (2010) 46 OCR 457, (2010) 2 CRIMES 241, 2010 (3) SCC(CRI) 1, 2010 (4) SCALE 690, 2010 CRILR(SC MAH GUJ) 510, (2010) 2 RECCRIR 896, (2010) 2 MAD LJ(CRI) 908, 2010 CALCRILR 2 597, (2010) 3 ALLCRIR 2640, (2010) 2 DLT(CRL) 530, (2010) 2 GUJ LH 357, 2010 CRILR(SC&MP) 510, (2010) 4 SCALE 690, (2010) 2 ALD(CRL) 401

Use in Investigations:

1. **Purpose:** Truth serum is employed to extract information from suspects or witnesses who may be unwilling to provide full disclosure during traditional interrogation methods.
2. **Historical Context:** Narco-analysis has been used in various criminal investigations globally, including India, particularly in high-profile cases involving terrorism, organized crime, and complex conspiracy.
3. **Legal and Ethical Concerns:** Despite its perceived utility, the use of truth serum is fraught with concerns about **self-incrimination** and the violation of **fundamental rights**. Critics argue that confessions or revelations made under the influence of these drugs may not be reliable, as subjects might mix truth with imagination or suggestibility.
4. **Judicial Stance in India:** In India, the Supreme Court, in **Selvi v. State of Karnataka¹ (2010)**, ruled that narco-analysis, along with polygraph and brain-mapping tests, cannot be administered without the subject's consent. The court highlighted that forced use of such methods violates the constitutional right against self-incrimination under **Article 20(3)**.

While truth serum tests are sometimes seen as tools of last resort in difficult cases, their use in legal proceedings remains limited due to ethical concerns, the risk of unreliable evidence, and potential human rights violations.

-How some drugs can alter the communication between cells in the brain:

Most people will take a pill, receive an injection or otherwise take some kind of medicine during their lives. But most of us don't know anything about how these substances actually work. How can various compounds impact on our body and the way we physically feel think and even behave? Most of the time this depends on how a drug alters the communication between cells in the brain.

There are a number of different ways that can happen. But before it gets into the brain any drug must first reach the bloodstream. On the journey it can take anywhere from seconds to hours, depending on facts like how its administered. The slowest method is to take a drug orally because it must be absorbed by our digestive system before it takes effect. Inhaling a drug gets it into the bloodstream faster and injecting a drug intravenously works too quickly because it pumps the chemicals directly into the blood. Once there, the drug quickly reaches the gates of its destination which is the brain, the entrance to this organ is guarded by the blood-brain barrier which separate bloods from the nervous system to keep potentially dangerous substances out. So, all drugs must have a specific chemical composition which gives them the key to unlock this barrier and pass through all over the body. Once the drugs start to interfere inside the body, with the brain's normal functioning by targeting its web of neurons and synapses. Neurons are brain cells that have a nucleus, dendrites and an axon. Synapses are structures placed along the dendrites or the axon which allow the exchange of electrochemical signals between neurons. Those signals take the form of chemicals called neurotransmitters. Each neurotransmitter plays different roles in regulating our behaviours, emotions and cognition. But they all work in one of two ways. They can either inhibit the receiving neuron, limiting its activity or excite it, creating a new electrochemical signal that spreads throughout the network. Any leftover neurotransmitter usually gets degraded or reabsorbed into the transmitting neuron. A drug's effectiveness stems from its ability to manipulate these synaptic transmissions at different phases of the process. That results in an increase or a decrease in the number of neurotransmitters being spread. For instance, common antidepressants, like SSRIs, stop the reabsorption of serotonin. A neurotransmitter that modulates our moods. This effectively pushes more of it into the neural network.

Meanwhile, painkillers, like morphine, raise levels of serotonin and noradrenaline, which regulate energy, arousal, alertness and pleasure. Those same neurotransmitters also affect endorphin receptors reducing pain

perception. And tranquilizers work by increasing the production of GABA to inhibit neural activity putting the person in a relaxed or sedated state.

This is how some drugs can alter the communication between cells in the brain and the truth serum test takes part.

What are Truth Serum Tests?

- Definition and explanation of truth serum tests

"**Truth serum**" is a colloquial name for any of a range of psychoactive drugs used in an effort to obtain information from subjects who are unable or unwilling to provide it otherwise. Generally, Sodium Amytal (also known as Sodium Amobarbital) or Sodium Secobarbital is injected to any person which has hypnotic effect and under influence of such drug, the person loses the power of telling lie. These include ethanol, scopolamine, 3-quinuclidinyl benzilate, midazolam, flunitrazepam, sodium thiopental, and amobarbital, among others.

Meaning:

It is a technique of diagnosing psychotherapy with the help of psychotropic drugs as central nervous system depressant and by virtue of this they produce a wide spectrum of effects. There are two most common drugs used to bring into play the Narco-analysis and these are Sodium Amytal which is also known as amobarbital or amylobarbitone and sodium Pentothal commonly known as thiopental or thiopentone is used by psychiatrist on the subject. Narco-Analysis produces sleep without large dosage of sedative drug. According to Horsely through the use of post hypnotic suggestion the revealed mental Contents could be regenerated around the acute event for contents.

There are other similar compositions also used in this test but the sodium composition is vastly used. This has no evidentiary value as per Evidence Act but based on the statement made by the accused during the test, any outcome of the investigation is admissible in Court.

Permission of the Court and consent of the accused are required for the test.

TRUTH SERUM TEST

- The most popular crime detection method in India.
- The drugs used for psychoanalysis Is commonly known truth serum.
- It Is a kind of psychotherapy.
- " Robert House is known as the father of Truth Serum. "
- Narco-analysis is a combination of Hypnosis and Narcosis.
- Generally, Barbiturates or Sodium Pentothal or Sodium Amytal.
- It is commonly used for Narco-Analysis.
- It brings that individual into semi-sleep with the help of scientific drugs.
- It makes the human beings to speak lies from the time immemorial.
- It gives an effective aid to scientific interrogation.

- Types of truth serum tests or Narcoanalysis tests

Narcoanalysis tests are investigative tools which are used to extract information from an individual in criminal cases. There are some types which are mentioned:

1. Free Association Test: In this tests individual's subconscious mind is assessed by questioning and the respond would be taken by words or phrases without thinking.
2. Word Association Test: Similar as the free association, but in this test the questions are more structured to discover the hidden connections.
3. Polygraph Test: It is also called the Lie Detector Test. Here, the physiological responses (heart rate, blood pressure, etc.) measures to detect deception.
4. Narco-synthesis: Combines truth serum (drugs like sodium pentothal) with hypnosis to induce a state where subjects are more likely to reduce inhibitions and provide information truthfully.

There are some additional tests which are:

1. Brain Fingerprinting: Analyses brain waves to identify familiarity with specific information.
2. Electroencephalography (EEG): It measures brain activity to detect deception or recognize familiar information.
3. Functional Magnetic Resonance Imaging (fMRI): Scans brain activity to identify areas associated with deception or recognition.

- How truth serum tests work

PROCEDURE FOR NARCO-ANALYSIS TEST:

- 3gram of drug dissolve in 3000ml of distilled water. This mixture with 10% of dextrose is injected intravenously to anticubital vein in the body of the subject over a period of 3 hours with the help of an experienced anethetist. It is injected in normal condition 0.5 -1 ml per minute till the subject becomes sedative. The drug depresses Central Nervous System and makes the heart beat slower and blood pressure lower down. This condition makes culprit or suspect talkative. The needle left in the vein of subject because, different person's need different dosage.

Compounds used:

In the truth serum test or narcoanalysis test generally, Sodium Amytal (also known as Sodium Amobarbital) or Sodium Secobarbital is injected to any person which has hypnotic effect and under influence of such drug, the person loses the power of telling lie. These include ethanol, scopolamine, 3-quinuclidinyl benzilate, midazolam, flunitrazepam, sodium thiopental, and amobarbital, among others.

Commonly used:

1. Sodium Pentothal (Thiopental): A barbiturate-based anesthetic inducing relaxation and reducing inhibitions.
2. Scopolamine: An anticholinergic medication used for its sedative and amnesic effects.
3. Amobarbital (Amytal): A barbiturate-based sedative used for its hypnotic and truth-inducing properties.

4. Pentobarbital (Nembutal): A barbiturate-based sedative-hypnotic used for its truth-inducing effects.

Other substances used:

1. Midazolam: A benzodiazepine used for sedation and anxiety reduction.
2. Diazepam (Valium): A benzodiazepine used for relaxation and anxiety reduction.
3. Lorazepam (Ativan): A benzodiazepine used for sedation and anxiety reduction.

DOSAGE OF TRUTH SERUM:

- The dose depends upon the suspect's sex, age, health, and physical, mental condition.
- In normal condition 3gm of Truth drug of Barbiturates class like sodium Pentothal, sodium Amytal etc... is required for the test.
- A wrong dose can pose serious threats and results a person will be go into coma, or even death.

Truth Drug binds GAGB (a neurotransmitter inhibitor is a chemical occurs naturally in body) forming a complex at the B site which exerts pressure over the permeability of chloride ions into neutral membrane leading to the stage of disinhibition. Truth drug out to increase the action of GAGB in the brain so that decreasing nerve activity the brain become sleepiness.

History of Truth Serum test- Early use of truth serum tests in India

In Truth serum Test, various drugs have been used for extracting the true statements from people. Wine was the basic method for extraction during ancient times. However, the first documented use of a truth serum to solve a criminal case occurred in New York in 1903. Ether which is considered as a truth-inducing drug, prompted a confession from a police officer who had murdered his wife. But scopolamine was the first drug approved as a truth inducing drug. It is a popular obstetric anaesthetic drug at that time.

This drug was first “discovered” by Dr. Robert House who is an obstetrician. When he injected scopolamine, his patients would fall into “twilight sleep” i.e., a state in which they would automatically deliver information. After numerous experiments Dr. House concluded that he could easily extract the truth from his patients through the use of this drug.

In 1922, two convicts from a Dallas jail volunteered to be test subjects in order to prove their innocence. Under the influence of the “truth-inducing drug” their claims of innocence appeared genuine. Additionally, after being put under the influence of scopolamine, one of the prisoner's claimed: “After I had regained consciousness, I began to realize that at times during the experiment I had a desire to answer any question that I could hear, and it seemed that when a question was asked my mind would centre upon the true facts of the answer and I would speak voluntarily, without any strength of will to manufacture an answer.” The results of this experiment coupled with the prisoner's statement verified Dr. House's hypothesis. With the help of this, Dr. House came across under the influence of scopolamine one would be unable to lie because the drug temporarily destroys the brain's power of reasoning.

During World War II, Barbiturates, like sodium amytal and sodium pentothal, were used extensively for psychiatric purposes. A small dose of the drug has used and as a result the heart-rate of the patient decreased, relieved tension and anxiety. This state of complete relaxation would enable the soldiers to calmly speak of their experiences in order to lessen their trauma. Consequently, observing the advantages of using truth-inducing drugs, the Nazis experimented with mescaline in the Dachau concentration camp while the CIA and the U.S. Army explored alternatives such as LSD and cannabis. Their effectiveness made them an essential component in interrogations. Rumours speak of the most effective truth drug code-named SP-17, used by the KGB in interrogations and to periodically confirm their agents' loyalty.

Although, in 2008, it was publicly announced that Indian police interrogators administered an unidentified drug in order to capture the gunman responsible for the Mumbai attacks, demonstrating the continual exploitation of these truth-inducing drugs. The CBI (Central Bureau of Investigation) of India has used intravenous barbiturates for interrogation, often in the high-profile cases.^[1] In the case of the interrogation of Ajmal Kasab who was the only terrorist captured alive by police in the 2008 attacks in Mumbai, India.^{[2][3]} Kasab was a Pakistani^{[4][5]} militant and a member of the Lashkar-e-Taiba terrorist group.^{[6][7]} On 3 May 2010, he was found guilty of 80 offences, including murder, waging war against India, possessing explosives, and other charges.^[8] On 6 May 2010, in the same trial the court sentenced him to death on four counts and to a life sentence on five counts.^[9]

HISTORY OF Truth serum test or NARCO-ANALYSIS:

- The word Narco-Analysis had its origin in 20 the CE. **Horseley** coined the term Narco-Analysis which means analysis of the knowledge of the individual¹ in drug induced condition.
- Narco-Analysis for the first time gained the popularity in the year 1922, when Robert House who was an obstetrician in Texas used the drug scopolamine on two prisoner's whose guilt appeared clearly confirm.
- He arranged the interrogation of two prisoners in the dallas country jail.
- It is only after this experiment that the phrase 'truth Serum' came into limelight. The term truth serum is a name given to hypnotic drugs that induce a person to speak the truth. The success of this experiment gave "Robert House" recognition as the *"father of Truth Serum."*

- Landmark cases involving truth serum tests:

India

In Gujarat, the Madhya Pradesh High Court permitted narcoanalysis in the investigation of a killing of a tiger that occurred in May 2010. The Jhurjhura

Tigress at Bandhavgarh National Park, a mother of three cubs, was found dead as a result of being hit by a vehicle. A Special Task Force requested the narcoanalysis testing of four persons, one of whom refused to consent on grounds of potential post-test complications.^[10]

Other countries:

USSR

In 2004, *Novaya Gazeta*, with reference to KGB General Oleg Kalugin, published an article that said that since the end of the 1980s the First and Second Directorates of the KGB had used SP-17, in exceptional cases and mostly on foreign citizens. SP-17 was extremely effective due its lack of scent and taste when added surreptitiously to a target's beverage. Additionally, SP-17 had the ability to loosen tongues and to erase all of the victim's memories during the time of the interrogation. It is an improved successor to similar drugs used by the KGB prior, that was effective in making a subject lose control of oneself 15 minutes after intake.^[11] Most importantly, a person who would be given, consecutively, two parts of the drug, i.e. both the "dote" and "antidote", would have no recollection of what had occurred in between and feel afterward as though he had suddenly fallen asleep, the preferable way to administer the "dote" being in an alcoholic drink, as that would serve as a plausible explanation of the sudden onset of drowsiness.^[11] Other reports state that SP-117 was just a form of concentrated alcohol meant to be added to alcoholic drinks such as champagne.^[12]

Russian Federation

According to the Russian Foreign Intelligence Service (SVR) officer, Alexander Kouzminov who quit his job in the early 1990s, the officers of SVR's Directorate S, which runs SVR's "illegals", primarily used the drug to verify fidelity and trustworthiness of their agents who operated overseas, such as Vitaly Yurchenko.^[13] According to Alexander Litvinenko, Russian presidential candidate Ivan Rybkin was drugged with the same substance by FSB agents during his kidnapping in 2004.^[14]

United States

During World War II, the United States Office of Strategic Services (OSS) experimented with the use of mescaline, scopolamine, and marijuana as drugs. They concluded that the effects were not much different from those of alcohol: subjects became more talkative but that did not mean they were more truthful. Like hypnosis, there were also issues of suggestibility and interviewer influence. In the case of scopolamine resulted in a mixture of testimonies both for and against those suspected, at times directly contradicting each other.^[15]

LSD was also considered as a possible truth serum, but found unreliable.^[16] During the 1950s and 1960s, the United States Central Intelligence Agency (CIA) carried out a number of investigations including Project MKUltra^[17] and Project MKDELTA, which involved illegal use of truth drugs including LSD.^{[18][19]}

Admissibility of Truth Serum Tests

In countries like India the truth serum test is not legally permissible because of the article 20 (3) of the constitution.

Indian context:

In India, narcoanalysis tests are governed by the Supreme Court's guidelines (Selvi v. State of Karnataka, 2010). The tests can only be conducted:

1. With the subject's consent.
2. Under medical supervision.
3. With a magistrate's permission.

Limitations and controversies:

- ✓ Reliability: Results may be unreliable or influenced by suggestion.
- ✓ Voluntariness: Subjects may not provide informed consent.
- ✓ Coercion: Tests may be used coercively or unethically.
- ✓ Admissibility: Results are often not admissible in court.

- What about illegal or illicit drugs?

These have powerful impacts on the brain that we're still trying to understand. Crystal meth which is an amphetamine induces a long-lasting release of dopamine and a neurotransmitter linked with the perception of reward and pleasure. It also activates noradrenaline receptors which increases the heart rates, dilates pupils, and triggers the body's fight or flight response. Cocaine blocks the reuptake of dopamine and serotonin, pushing more into the network where they boost energy, create feelings of euphoria, and suppress appetites. And hallucinogenic drugs have some of the most puzzling effects. Substances like LSD, mescaline, and DMT all block the release of serotonin, which regulates mood and impulsivity. They also have an impact on the neural circuits involved in perception, learning, and behavioural regulation, which may explain why these drugs have such powerful impacts. Even if some of these effects sound exciting, there are reasons why some

of these drugs are highly controlled and often illegal. Drugs have the power to alter the brain's chemistry, and repeated use can permanently rewire the neural networks that support our ability to think, make decisions, learn, and remember things. There's a lot we still don't know about drugs and their effects, both the good sides and the bad sides. But those we do know about are the ones we've studied closely, and turned into effective medicines. As our knowledge grows about drugs and the brain, the possibilities will also increase for treating the many medical problems that puzzle researchers today.

Challenges and Controversies

- Ethical concerns (e.g., human rights, privacy):

In the Fifth Amendment of the U.S. Constitution has mentioned about the right to remain silent.^{[20][21]} The European Court of Human Rights have been raised concerns, arguing that the use of a truth serum could be considered as a violation of a human right and it should be free from degrading treatment,^[22] or could be considered a form of torture.^[23] It has been noted to be a violation of the Inter-American Convention to Prevent and Punish Torture.^[24]

These are also said about the violation of the Right to Life and Personal Liberty, under article 21 of the Constitution of India, i.e. the Right to Privacy and the Right to Silence. This is an infraction of the Right to Life and Personal Liberty under article 21, as a person cannot be 'forced' to give evidence against himself. As mentioned above, the administration of truth serum is said to violate the Fundamental Rights as under article 20 (3) as well as art.

The argument against this would be that these can be administered if the consent of the accused is obtained. To counter this, art. 21 would still be violated as the nature of these tests is such that it harms the physical health of the accused and would be a violation of human rights.

- Scientific limitations and potential biases

1. Unreliable Accuracy:

- Truth serum tests, primarily using drugs like sodium pentothal, are not scientifically proven to guarantee the accuracy of information. Subjects under the influence of these drugs may be more suggestible and prone to confusion, leading to inconsistent or unreliable responses.
- The induced semi-conscious state can cause a person to mix memories, fabricate responses, or provide false information, undermining the credibility of any disclosures made during the test.

2. Lack of Verifiability:

- Unlike physical evidence or DNA testing, there is no objective way to verify the truthfulness of statements made under the influence of truth serum. This makes it difficult for courts to ascertain whether the information provided is factual or simply the result of the subject's altered state of consciousness.

3. Susceptibility to Suggestion:

- Individuals subjected to truth serum tests are highly vulnerable to suggestion. The interviewer's questions and prompts can unintentionally lead or influence the subject, causing them to provide answers that align with the interviewer's biases or assumptions rather than objective truth.
- This introduces potential confirmation bias, where the investigator may seek answers that affirm their existing theories, potentially distorting the results.

4. Ethical and Psychological Concerns:

- Truth serums can cause emotional and psychological distress, as the subject may lose control over their thoughts and speech. The loss of autonomy and the fear of being manipulated can lead to resistance, anxiety, or misleading statements.
- Ethically, the test raises concerns about violating individual rights and self-incrimination, particularly when subjects feel coerced into undergoing the procedure.

5. Impact of Memory Distortion:

- Under the influence of drugs, the subject's recall of events may become distorted. Memories may be exaggerated, confused with other experiences, or misremembered entirely, casting doubt on the validity of the information obtained during the test.
- Furthermore, people under such influence might speak based on fantasies, dreams, or partial recollections, adding to the difficulty in distinguishing fact from fiction.

6. Variability of Responses:

- Individuals react differently to truth serum drugs based on factors such as their physical health, mental state, and drug tolerance. Some may be highly suggestible, while others may remain resistant or confused, leading to varied and unpredictable responses.
- There is no uniform outcome from these tests, further weakening their reliability as a scientific method for uncovering truth.

7. Non-Admissibility as Evidence:

- The Supreme Court of India, in cases such as *Selvi vs. State of Karnataka* (2010), has ruled that involuntary administration of narco-analysis and similar techniques violates the constitutional right against self-incrimination under Article 20(3). Given the test's unreliable nature, it is often not admissible as evidence in court.
- Even when consent is obtained, courts are hesitant to accept truth serum results without corroborating evidence, making them more of an investigatory tool rather than a conclusive method of proving guilt or innocence.

Truth serum tests have significant scientific limitations that compromise their reliability. The potential for suggestion, memory distortion, and the inability to verify the truthfulness of statements make these tests scientifically and legally questionable. As a result, their use in investigations must be approached with caution, and they are rarely accepted as credible evidence in judicial proceedings.

- International perspectives and comparisons

The use of truth serum tests in legal and investigative processes varies significantly across different countries, reflecting diverse legal frameworks, ethical standards, and scientific acceptance. While some nations have experimented with narco-analysis, others have outright rejected it due to concerns over human rights, reliability, and constitutional safeguards. Below is a comparative analysis of international perspectives on truth serum tests:

1. United States

- **Legal Framework:** In the U.S., truth serum tests, or narco-analysis, are generally considered unreliable and inadmissible in court under the **Frye Standard** (1923) and the **Daubert Standard** (1993). These standards require scientific evidence to be widely accepted in the relevant scientific community to be admissible in court. Narco-analysis does not meet this criterion due to its questionable reliability.

- **Fifth Amendment Protections:** The use of truth serum tests is also seen as a violation of the **Fifth Amendment**, which protects individuals from self-incrimination. Administering such drugs to extract information can be interpreted as coercive, leading to the exclusion of such evidence in legal proceedings.
- **Use in Interrogations:** While truth serum has occasionally been suggested in intelligence and military contexts, its use remains limited, and confessions or admissions obtained under its influence are not admissible in civilian or military courts.

2. United Kingdom

- **Legal and Ethical Stance:** In the UK, truth serum tests are not commonly used in law enforcement or judicial settings. The **Police and Criminal Evidence Act (PACE) 1984** ensures the protection of individuals against coercive methods during interrogation, aligning with the European Convention on Human Rights.

Scientific Validity: The UK legal system, similar to the U.S., follows strict guidelines for the admissibility of scientific evidence. Due to the unreliable nature of narco-analysis and its potential to produce false memories or coerced statements, it is not accepted as a reliable investigative or evidentiary tool.

3. India

- **Legal Framework:** In India, the use of truth serum (narco-analysis) has been highly controversial. It has been employed in several high-profile criminal cases as an investigative tool. However, the **Supreme Court of India**, in the landmark judgment of *Selvi vs. State of Karnataka* (2010), ruled that the involuntary administration of narco-analysis violates Article 20(3) of the **Constitution of India**, which protects against self-incrimination.
- **Admissibility:** The Supreme Court emphasized that the results of narco-analysis cannot be admitted as evidence in court without the voluntary consent of the subject. Even when consent is obtained, the admissibility of the results is limited, and the findings are treated with skepticism due to concerns over reliability and the potential for suggestibility.
- **Investigative Tool:** Although not admissible as direct evidence, narco-analysis is sometimes used in investigations to extract leads or information, which can later be verified through other means.

4. European Union

- **Human Rights Concerns:** The **European Court of Human Rights (ECHR)** has consistently upheld the view that the use of coercive techniques, including truth serum, violates the **European Convention on Human Rights**, particularly Articles 3 (prohibition of torture) and 6 (right to a fair trial).
- **Scientific Validity:** Across most EU nations, narco-analysis is not recognized as a valid scientific method due to the high risk of producing unreliable, manipulated, or coerced statements. Countries like Germany and France have strong legal safeguards in place to prevent the use of such methods in criminal investigations.

5. Russia

- **Use in Interrogations:** In Russia, the use of truth serum has been reported in certain high-level security and intelligence cases, although its legal standing remains unclear. There have been instances where truth serum was allegedly used during interrogation in espionage or terrorism-related cases, but these reports are not officially confirmed.
- **Legal and Ethical Issues:** Russia's legal system does not officially endorse the use of narco-analysis in regular criminal investigations, and its use would likely violate internationally accepted human rights standards. Publicly, truth serum evidence is not used in court proceedings due to its questionable legality and reliability.

6. Latin America

- **Brazil and Argentina:** In countries like Brazil and Argentina, the legal systems do not officially support the use of narco-analysis, but there have been occasional reports of its use in intelligence or law enforcement. However, like most democracies, the principle of non-self-incrimination and human rights protections generally prevent its formal acceptance as evidence in court.
- **Human Rights Focus:** Across Latin American countries, especially those with a history of human rights abuses, there is strong resistance to using any form of coercive interrogation, including narco-analysis, which is viewed as incompatible with international human rights standards.

7. Middle East and North Africa

- **Limited Use:** In some Middle Eastern countries, there have been reports of truth serum being used in intelligence and counter-terrorism interrogations, although these reports are largely anecdotal and lack formal legal support.
- **Human Rights Concerns:** Many of these nations face international scrutiny over human rights abuses, and the use of coercive interrogation methods, including narco-analysis, would likely face global condemnation if used in high-profile cases. Nonetheless, there is little to no official recognition of such practices in formal criminal justice systems.

While some countries have experimented with or employed truth serum tests in specific investigatory contexts, the global trend overwhelmingly opposes their use due to concerns over reliability, scientific validity, and human rights. In jurisdictions such as the U.S., U.K., and EU, truth serum evidence is inadmissible due to its potential to infringe on constitutional protections against self-incrimination. In countries like India, its role is limited to an investigative tool, with its admissibility as evidence strictly curtailed.

Overall, truth serum tests remain controversial and largely rejected in legal systems that prioritize individual rights and scientific rigor. The global consensus is moving towards rejecting coercive techniques in favour of methods that are consistent with fair trial standards and human rights protections.

Case laws on evidentiary value of truth serum test

1. Selvi & Ors. vs. State of Karnataka (2010)

- Court: Supreme Court of India
- Citation: (2010) 7 SCC 263
- Key Issue: The Supreme Court addressed the legality and constitutionality of narco-analysis, polygraph, and brain mapping tests. The key question was whether these techniques violate the right against self-incrimination under Article 20(3) of the Indian Constitution.
- Judgment: The Court held that the involuntary administration of truth serum tests, narco-analysis, polygraph tests, or brain mapping violated the constitutional right against self-incrimination. The Court ruled that these techniques cannot be conducted without the subject's voluntary consent. Furthermore, any information derived from such tests is not admissible as evidence in court unless it leads to the discovery of further material evidence.
- Significance: This case remains the landmark ruling on the use of truth serum tests in India. The Court emphasized that the results of such tests are unreliable and involuntary administration is unconstitutional.

2. Ramchandra Reddy & Ors. vs. State of Maharashtra (2004)

- Court: Bombay High Court
- Key Issue: The Bombay High Court examined whether narco-analysis could be admitted as evidence in a criminal trial.
- Judgment: The Court allowed narco-analysis to be used as an investigative tool but highlighted that the results cannot be treated as conclusive evidence. The Court maintained that information obtained through such tests should be corroborated by other material evidence.
- Significance: The Court recognized the utility of narco-analysis in assisting investigations but was cautious in granting it full evidentiary value. This was later overshadowed by the more detailed ruling in *Selvi vs. State of Karnataka*.

3. Dinesh Dalmia vs. State (2006)

- Court: Madras High Court
- Key Issue: The case involved the admissibility of narco-analysis in the investigation of a financial fraud.
- Judgment: The Madras High Court allowed the use of narco-analysis in criminal investigations and emphasized that it can be used as an investigative aid to gather clues. However, the Court stated that the results of the narco-analysis test alone are not admissible as evidence in a trial and must be corroborated by other material evidence.
- Significance: This case reflects the cautious approach of Indian courts in using narco-analysis results, allowing it to support investigations but not to serve as direct evidence in trials.

4. State of Gujarat vs. NISAR AHMED Mohd. Yusuf Chaudhary (2004)

- Court: Gujarat High Court
- Key Issue: The case involved an accused undergoing narco-analysis in a terror-related investigation. The question arose regarding the admissibility of the test results.
- Judgment: The Gujarat High Court ruled that while narco-analysis can be used to assist investigations, the information gathered cannot be treated as evidence unless corroborated with independent evidence.
- Significance: The Court reinforced the need for independent corroboration for evidence obtained through narco-analysis.

Future Directions

The use of truth serum tests, particularly narco-analysis, remains a highly debated subject within legal and scientific communities. As things stand, truth serum tests are generally regarded as unreliable due to their questionable accuracy and the potential for suggestibility. Courts, especially in India following the *Selvi vs. State of Karnataka* judgment, have limited their admissibility, focusing on the need for voluntary consent and independent corroboration. However, as scientific advancements continue and the legal landscape evolves, the future of truth serum tests and their admissibility as evidence might change.

One of the main hurdles to the admissibility of truth serum tests is the **scientific unreliability** of the results. The semi-conscious state induced by drugs like sodium pentothal makes individuals more suggestible and prone to giving inaccurate or false information. However, future research in neuropsychology, pharmacology, and artificial intelligence may lead to more reliable methods of accessing subconscious information. If scientists can develop a more accurate and controlled system for using drugs to extract truthful information, the legal community may reconsider their stance on the admissibility of such tests in evidence.

Ethical considerations are another key factor that will shape the future direction of truth serum tests. Presently, the involuntary administration of such tests is viewed as a violation of basic human rights, particularly the right against self-incrimination. However, there could be a shift if legal frameworks are developed that allow for the voluntary use of such techniques with proper safeguards in place. For example, ensuring that individuals are fully aware of their rights, providing legal counsel, and obtaining explicit consent before administering these tests could make them more ethically acceptable. If such ethical concerns are addressed, courts may be more open to considering the results of truth serum tests as evidence.

Additionally, **technological advancements** could improve the accuracy of truth serum tests. With ongoing research in brain-mapping, neuroimaging, and AI-based lie detection technologies, it is possible that future truth serum tests could be integrated with other technologies to ensure greater accuracy in extracting truthful information. If truth serum tests are used in conjunction with these tools, the results might become more reliable and verifiable, which could lead to their increased acceptance in court proceedings.

Another important aspect that could influence the future direction of truth serum tests is the **global legal landscape**. While countries like the United States and the United Kingdom have stringent standards for the admissibility of scientific evidence, including truth serum tests, other jurisdictions may adopt a more flexible approach. In India, for instance, while the *Selvi* judgment limits the use of narco-analysis, the judiciary still permits it as an investigative tool. With evolving legal standards, certain countries may explore truth serum tests in specialized areas such as counterterrorism, where traditional investigative methods fall short. This shift could, over time, impact the broader debate on their admissibility in regular criminal cases.

Judicial oversight and the role of the judiciary in regulating the use of truth serum tests will also play a crucial part in their future. Courts have the responsibility to balance the pursuit of truth with the protection of individual rights. As societal norms evolve and legal systems grapple with more complex criminal cases involving cybercrime, terrorism, and international crime syndicates, the courts may become more open to using new technologies, including improved versions of truth serum tests. However, this will require stringent guidelines and protocols to ensure that individual rights are not compromised.

In conclusion, the future of truth serum tests and their admissibility in evidence depends on a combination of scientific advancements, ethical considerations, legal reforms, and judicial oversight. If truth serum tests

become more reliable and ethically acceptable, they may find a place in modern legal systems. However, any future use of such techniques must prioritize individual rights, ensure voluntary participation, and be supported by corroborative evidence to avoid miscarriages of justice. The path forward is likely to be gradual, with careful scrutiny by both the legal and scientific communities.

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