

“SCIENTIFIC EVIDENCE IN CRIMINAL TRIALS- NARCOANALYSIS, POLYGRAPH AND BRAIN MAPPING”

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INTRODUCTION

A question that may plague our minds when we read about Narcoanalysis and the advancements science has made in allowing us to gather evidence in a case quicker, and perhaps deliver justice faster over time is- why are these techniques being criticized and slow to be accepted in a world that should be open to appreciate the advantage of scientific approach for investigation. The drug used causes a temporary stupor to the accused who answers certain questions under its influence with his consent and that evidence can be used to further the understanding of the case by the investigating officers. What is so discouraging about that? Fingerprint identification is another form of scientific evidence that has long been accepted to have evidentiary value. Then why have writers of medical journals gone so far as saying that interrogations with the help of drugs are nothing “short of torture”. An in depth analysis of Scientific Evidence in Criminal trials and its relation to human rights, personal liberty and law can help us better understand its position in India and whether the courts of our country are ready to adopt and recognize evidence collected by scientific methods.

THE THREE MAIN SCIENTIFIC TOOLS OF INVESTIGATION-NARCOANALYSIS, BRAIN MAPPING AND POLYGRAPH

The term Narco-Analysis is derived from the Greek word *narkē* (meaning "anesthesia" or "torpor") and is used to describe a diagnostic and psychotherapeutic technique that uses psychotropic drugs, particularly barbiturates, to induce a stupor in which mental elements with strong associated affects come to the surface, where they can be exploited by the therapist.¹ The idea behind narco analysis is that a person may ordinarily be able to lie using his imagination but in a stupor he'll only speak what he knows. Brain mapping is a technique that allows a professional to map a person's brain in a way that if the person's brain generates any P300 waves, it means that the person has some connection to the stimulus or images shown. No questions are asked to the person. In Polygraph test, well known as the lie detector test, the person is asked questions and then their physiological response, that is heartbeat, pulse, breathing etc are noted to see if the person is lying. Although these tests show promise, their accuracy and reliability have been questioned at multiple instances. It has been argued that these forms

¹ Dr. Pradeep Kumar Singh '*Narcoanalysis Test And Law In India*' <<https://madhavuniversity.edu.in/nacro-analysis-test.html>>

of collecting evidence may lead to “testimonial compulsion” (accused being compelled to be a witness against himself). Also, just because a person is in a drug induced state and talking freely, does not mean that the revelations made by him are true. Keeping legal validity aside, a statement’s accuracy cannot be promised by these tests alone. It is not much help in case of malingers or evasive, untruthful persons. However it may be used to corroborate other evidence. They seem to be a good alternative to third degree torture and heinous methods of confession extraction that police officers usually resort to, causing the person grave physical injuries. These methods of third degree torture, though illegal under section 330 of the Indian Penal Code and incriminating in nature for the police officer investigating, are still very often used to extort confessions from the accused. In the famous case of *Selvi v. State of Karnataka*,² the relevancy of Polygraph test was questioned by the court. The court in this case had to decide whether the Polygraph test can be conducted on the subject without their consent and the constitutional validity thereof. The Hon’ble Court observed, “Article 20(3) protects an individual’s choice between speaking and remaining silent, irrespective of whether the subsequent testimony proves to be inculpatory or exculpatory.” Article 20(3) prevents the forcible conveying of personal testimony which here is relevant to facts in issue. The evidence collected through this test is not material in nature and is rather a personal testimony. The maxim *Nemo Tenetur Seipsum Accusare* is a fundamental principle of Criminal justice meaning “no man is bound to accuse himself”. The Supreme Court has given certain guidelines with regard to the Polygraph test in this case. The court in its judgment said that an accused should not be forced to give his consent and if the testimony is recorded forcefully, it would violate Article 20(3) of Indian Constitution. These tests are ordinarily carried out in an operation theatre to ensure quick medical help in case the need arises. The room has a narco analyst, anethetist and a general physician to keep a watch on the subject. The room is quiet without any noise and disturbances.

SCIENTIFIC VALIDITY OF NARCOANALYSIS

Hypotheses concerning the mechanism of action of these drugs generally stress the diminution of fear and anxiety, the decreased "pressure upon the ego," the opportunity for a reaction, the process of talking about and "reliving" the foci of emotional disturbance.³ Several questions have been raised on the scientific validity of these tests and especially on their reliability. Narcoanalysis, for example involves intravenous administration of sodium pentothal, which allows a person to freely speak their mind due to lowered inhibitions and the state of trance they’re in. Just because a person is speaking freely does not mean that the revelations made by him are true. At the 1977 U.S. Senate hearings on its secret mind-control project, the CIA acknowledged that "no such magic brew as the popular notion of

² (2010) 7 SCC 263

³ George H Dession and Lawrence Z Freedman and Richard C Donnelly and Frederick C Redlich, '*Drug-Induced Revelation and Criminal Investigation*' (1953) 62 YALE LJ 315

truth serum exists".⁴ Empirical studies have shown again and again that these methods are not reliable in either polygraph tests or brain mapping or narcoanalysis. These tests are done to procure evidence mostly to corroborate direct evidence and prove its validity and not so much to be used as evidence on its own in a court of law. Even when person consents to giving the test, it must be made sure that he is protected under the purview of section 20(3) of the constitution. In *M.P. Sharma v. Satish Chandra*⁵, the court held: "*Broadly stated, the guarantee in Article 20(3) is against 'testimonial compulsion'. It is suggested that this is confined to the oral evidence of a person standing his trial for an offence when called to the witness-stand. We can see no reason to confine the content of the constitutional guarantee to this barely literal import. So to limit it would be to rob the guarantee of its substantial purpose and to miss the substance for the sound as stated in certain American decisions...*"⁵

Thus one cannot place much value on the substance of these scientific tests as we have some scientific advancement to look forward to before we can rely on these tests completely.

CONSTITUTIONAL AND LEGAL VALIDITY OF NARCOANALYSIS

The Criminal Justice System of India expects the persons giving statements in a court of law to be mentally fit. But in Narco analysis, the person giving the test is in a semi-conscious state. Keeping in mind how we take the statements of a child witness or mentally disabled people (that is with a grain of salt) the statements of the person in a drug induced state may not be the most reliable, according to empirical studies. It is essential that a person being a witness is adept and at the least, capable of observing, recollecting, and narrating incidents as needed. The biggest argument against narco analysis is that it violates a person's right against self incrimination under article 20(3) of the Indian constitution. The idea of testimonial compulsion as stated above comes from here. There is a difference between testimonial evidence and evidence of the physical nature. Handwriting analysis for example, may be testimonial but it is not self incriminatory. Article 20 (3) of the constitution states that "No person accused of any offence shall be compelled to be a witness against himself". The word "compelled" is important in this definition. If the person is voluntarily agreeing to give the test, it is not testimonial compulsion. Test through an informed consent however still shouldn't count as anything more than a person's subjective account of the things that happened. Any evidence gathered that is unfavourable to the accused is violative of his rights under the protective shield of article 20(3) of the constitution. We postulate that even when an individual freely consents to undergo such tests, the testimony that results is not truly voluntary because the tests are conducted differently from an ordinary interrogation. In an ordinary interrogation, the investigator asks questions one by one and the subject can choose whether to remain silent or to answer, and how much information to give at each point. However, with impugned techniques, there can be no such conscious monitoring of the information released as the

⁴ Sriram Laxman, 'Narcoanalysis And Somehard Facts' Frontline 2007

⁵ *M.P. Sharma vs Satish Chandra* (1954) AIR 300, (1954) SCR 1077

⁶ Article 20(3), The Constitution of India

subject has no conscious control over what he says⁷. The evidence law remains mostly quiet on the subject of scientific evidence. Section 25 of Indian Evidence Act, 1872 talks about the confession made by a person in police custody and states that it could not be admitted as evidence. So the evidence may not be admissible after all. Section 161 of the Crpc states that a police officer who is handed over an investigation of a case can ask questions orally as he deems fit to further the investigation and the person is bound to answer as long as the answer does not incriminate him. In *Dr. Rajesh Talwar and Another v. Central Bureau Investigation through its Director and Others*⁸ which is also known as the *Arushi Murder case*, Arushi Talwar a fourteen year old girl's dead body was found in her room her place of residence in Noida with a slit throat in the summer of 2008. The initial suspect was the house help 45-year-old Hemraj, who was also missing until he was found dead on the terrace two days later. Here the place of crime had mostly smudged fingerprints from neighbors and thus no evidence of value. Even though narcoanalysis tests were done, the mystery remained unsolved and the lack of direct evidence against anyone lead to acquittal of parents and no conviction. *Rojo George v. Deputy Superintendent of Police*⁹ is a case law where the courts opined that present day criminals are using very sophisticated and modern techniques to commit crimes and therefore on our part, the conventional method of investigation is lacking and may not be successful anymore. There is need to make changes with the changing times and utilize the new techniques that are there in the form of polygraph, brain mapping and narco analysis. The Court also reiterated that usage of such techniques does not violate the fundamental rights of citizens of India when they're being performed in the presence of investigating and forensic experts. *Mohinder Singh Pandher and Surender Singh Koli v. State of U.P.*¹⁰ also called the Nithari Murder case is a famous case where Surender Koli and Mohinder Singh Pandher were put under narco analysis test in 2007, as the main accused in the well known murder case. The test was conducted in Gandhinagar in a forensic lab to ascertain the truth behind statements made by them during their custodial interrogation. The tests lead to several revelations like the accused disclosing the names of the murdered women and children and their rape by the accused. The test therefore helped reveal relevant information to the authorities in charge investigating the case.

RIGHT TO PRIVACY AND RIGHT TO BE SILENT

Along with section 20(3), section 21 of the Constitution which promises its citizens that, "No person shall be deprived of his life or personal liberty except according to a procedure established by law."¹¹ Right to privacy is a part of personal liberty and critics have argued that these tests violate a person's right to privacy of the utmost kind, privacy to one's mind. If a person wants to confess something, they

⁷ M Arun and P P Jagadish Rao and Ritesh G Menezes, 'The Present Legal Perspective of Narcoanalysis: Winds of Change in India' (2010) 78 MEDICO-LEGAL J 138

⁸ 2013 (82) ACC 303

⁹ WP(C).No.6245 of 2006 (U)

¹⁰ Reserved Criminal (Capital) Appeal No. 1475/2009

¹¹ Art. 21, The Constitution of India

may do it in a competent court of law. Intrusion into a person's mind to see what they think and feel is felt by some to be the utmost kind of disregard to a person's fundamental rights under section 21 of the Constitution. Article 21 of the Constitution of India also includes a "right against cruel, inhuman or degrading treatment". Therefore, does the administration of these drugs without the consent of the one administered breach the law and norms of international law? Remembering the major right of an individual through the acknowledgment of human dignity, in *D.K. Basu*, the Court set out the procedure which is to be pursued even at the time of arrest of an individual to guarantee that due dignity of the individual who is arrested is kept up. Most outstanding among others, the Court coordinated that such an individual will not be bound, except if he is a hardcore lawbreaker and in that case also previous permission of the Judicial Magistrate concerned must be taken. However various High courts have ruled that a person's constitutional right cannot override state's interest therefore the facts of the case have to be kept in mind when dealing with such cases. In the end, tests performed as such generally do not have any legal validity since the confessions made by a person not fully conscious are not admissible in a court of law.

The right to silence has various facets:

- The burden is on prosecution to prove the accused guilty.
- An accused is presumed to be innocent till he is proved guilty.
- The right of accused against self-incrimination, i.e. he cannot be compelled to incriminate himself¹²

The right to silence is based on the right against self incrimination. A person has the right to not speak anything that maybe used against him in a court of law. Even when a person voluntarily agrees to speak in front of a police officer, he is not bound to answer any question that may be a statement against him. Right to Silence has been given to the person who is an accused in a case by pronouncement in the landmark case of *Nandini Sathpathy v. P.L.Dani*.¹³ The Court observed in a certain case law¹⁴ that just because there is use of scientific evidence by investigating agencies does not mean that there is testimonial compulsion. This means that conducting a narco analysis is not in itself a violation of article 20(3) but rather is more of a personal testimony unless after conducting the test, the accused gives out certain information that may incriminate him, in which case it will come under Article 20(3). All other information gathered during the test can help further the investigation and there is no reason why this test should be declared unconstitutional. The test has proved to be a very helpful tool in corroborating evidence in high profile cases such as terrorist attacks in Mumbai, Delhi and other major cities in the nation. Though evidence law stays silent on scientific evidence, it does show under section 27 of Indian

¹² Debosmita Nandy, "Reflections on Right to Silence" (2007)

¹³ 1978 AIR 1025, 1978 SCR (3) 608

¹⁴ *Dinesh Dalmia v State* (2007)

Evidence Act “How much of information received from accused may be proved.—Provided that, when any fact is deposed to as discovered in consequence of information received from a person accused of any offence, in the custody of a police officer, so much of such information, whether it amounts to a confession or not, as relates distinctly to the fact thereby discovered, may be proved.”¹⁵ In the case law *State of Bombay v. Kathikalu*,¹⁶ it was held that it must be demonstrated that the accused person was forced to make statements likely to incriminate him. Compulsion is also called duress, which incorporates in itself threatening, beating or imprisoning the wife, parent or child of individual. Along these lines where the accused makes an admission with no inducement, threat, or promise, 20(3) does not matter. In this way, the privilege against self- incrimination causes the support and maintaining of human privacy and observing of standards and principles in the enforcing of criminal justice. In *NALSA v. Union of India*,¹⁷ the third gender and their right to choose their gender identity was seen through the eyes of Right to Privacy. A person’s right to sexual orientation is an intimate decision and no other person should be allowed to dictate this life decision. Society does not have the right to question a person’s gender and a transgender person is protected under the Right to life and personal liberty, and in consequence the Right to privacy as enshrined in the constitution.

THE RIGHT TO HEALTH

In India, various International human rights instruments which are so applicable, perceive a right to health. Right to health is a part of the right to life. This right is recognized under Article 21 of the Constitution of India as a fundamental right. The concept of right to health has been clarified by the Supreme Court in *Paschim Banga Khet Mazdoor Samity and Ors. v. Territory of West Bengal and Anr.*¹⁸ Arguing that barbiturates regulated during narco-analysis have unfavorable side effects was advanced before the Kerala High Court in *Rojo George v. Deputy Superintendent of Police*.¹⁹ The High Court thought that it was illogical only in light of the fact that similar substances are also given to patients for diagnosis even though they may have side effects. The Court likewise depended on a report expressing that the substances used in these tests are administered in lesser amounts as opposed to medical treatment. There are legal points of reference from the United States which managed the forensic use of the narcoanalysis procedure, one of which is a decision from the case, *State v. Hudson*²⁰. In that case, the defense lawyer while prosecuting for rape endeavored to depend on the expert opinion of a doctor. The doctor thus announced that he had questioned the accused subsequent to injecting a truth serum and that the person had denied his guilt while in a drug induced state. The trial court had rejected the doctor’s opinion by observing it to be totally unreliable from a scientific perspective. The appellate court

¹⁵ Art. 27, Indian Evidence Act

¹⁶ 1961 AIR 1808, 1962 SCR (3) 10

¹⁷ Writ Petition (Civil) NO.400 OF 2012

¹⁸ 1996 SCC (4) 37, JT 1996 (6) 43

¹⁹ Supra 9

²⁰ 11 U.S. 32

upheld the finding and mentioned the accompanying objective fact: "Testimony of this character - excepting the sufficient fact that it can't be classified other than a self-serving assertion - is, in the current state of human knowledge, not worthy of serious consideration. We are not told from what well this serum is drawn or what alembic its supposed truth telling powers are compelled. Its origin is as nebulous as its effect is uncertain".

ROLE OF MEDICAL PROFESSIONALS IN NARCOANALYSIS

A medical professional taking part in narcoanalysis is viewed as taking an interest in a "psychological third-degree procedure". Section 2, guideline 6.6 of the Code of Medical Ethics in quite a clear manner expresses that the physician shall not aid or abet torture nor shall he/she be a party to either infliction of mental or physical trauma or concealment of torture inflicted by some other person or agency in clear violation of human rights. The United Nations' meaning of torment has the right to be mentioned here, that torture has four parts: (a) it is an act causing extreme physical and mental agony and suffering, that is (b) deliberately inflicted (c) for a specific reason (of getting data, confession, and so forth) and carried out (d) by somebody acting in an official capacity. When a medical professional acts on the orders of police or investigating agencies, they may end up disregarding their ethical principle of beneficence (to do good to the patient). The medical fraternity considers it against their patient's interest to conduct narcoanalysis and gather evidence which doesn't favour the subject. The doctor may be violating the principles of Article 20(3) of the Constitution of India and s 161(2) of the Criminal Procedure Code in India, and this may put unnecessary strain on the doctor-patient relationship. A doctor's job is to heal their patients. The doctor patient relationship is one of trust, faith and hope. Since doctors are meant to heal their patients of physical trauma and in turn help them relax mentally, an uninformed procedure or one without the consent of the patient is a gross violation of the person's privacy and causes stigma everywhere for the goodwill of the doctor-patient relationship. Thus it is important that the ethical code of medicine is not ignored by the practicing professional. It is important that doctors and scientists in forensic science must remain impartial and not allow the police or any investigating agencies to influence their minds. Moreover as we cannot ignore the relationship between law and medicine, it may be wise to consider teaching about forensic science and medical knowledge as needed to law students in order to facilitate a basic understanding of these disciplines. This may help budding lawyers not be blind to the workings of a medical professional in medico legal cases.

CRITICISM AND GUIDELINES IN ADMINISTRATION OF POLYGRAPH TEST

Polygraph or lie detector test was not regulated by law before 1999 and thus was known to be misused by the administration to coerce statements out of the accused. The test had become less about informed consent and more a desperate way for the ones arrested to clear their name on arrest. Seeing the increased misuse of the lie detector test, the National Human Rights Commission decided that

there needs to be a set number of guidelines for the regulation of the polygraph test. This must be done to ensure that taking the test is the prerogative of the accused and not a power tool for the police to force people to be a witness against themselves. The following guidelines have been issued by the government for the administration of the lie detector test:

- “No Lie Detector Test should be administered without the consent of the accused. Option should be given to the accused as to whether he wishes to avail the test.
- If the accused volunteers for the tests, he should be given access to a lawyer. The police and the lawyer should explain the physical, emotional and legal implication of such a test to him.
- The consent should be recorded before a Judicial Magistrate.
- During the hearing before the Magistrate, the accused should be duly represented by a lawyer.
- At the hearing, the person should also be told in clear terms that the statement that is made shall not be a 'confessional' statement to the Magistrate but will have the status of a statement made to the police.
- The Magistrate shall consider all factors relating to the detention including the length of detention and the nature of interrogation.
- The actual recording of the Lie Detector Test shall be done in an independent agency (such as a hospital) and conducted in the presence of a lawyer.
- A full medical and factual narration of the manner of information received must be taken on record.”²¹

CRITICISM OF BRAIN MAPPING TEST

During the test, the subject is shown various auditory and visual cues, relevant as well as irrelevant, and is called material or neutral “probes”. These probes cause certain neuro-transmitted waves that are used in ascertaining a person’s familiarity with the crime scene. This sort of test is generally not effective or rather reliable when it comes to finding out who the criminal is as anyone who was at the place of the crime, even as a bystander may have a similar reaction to the stimuli as the person who committed the crime. In fact, in today’s world of live breaking news and violent scenes in movies, one may rather blame the brain for things not in its control. What brain mapping may be used for is an innocent alibi to show that a certain accused was not present at the crime scene as they can’t distinguish the irrelevant stimuli from the relevant ones. And thus brain mapping is not a very effective way of gathering evidence through scientific evidence. It is important to avoid premature use of such tests outside

²¹ National Human Rights Commission, India<<http://nhrc.nic.in/press-release/guidelines-administration-lie-detector-test>>

research centers as there is still a lot of work needed for these tests to have accurate applicability in India.

ADVANTAGES AND DISADVANTAGES OF NARCOANALYSIS IN INDIAN CIMINAL JUSTICE SYSTEM

There are conflicted views of different judges at different points of time regarding the use of such tests. These tests are a cause of much debate by the judiciary and there is no single consensus that is reached regarding the use of these techniques. The judges try to harmoniously construe the provisions of law to determine how to use these techniques to benefit the case that requires an extra helping hand and not become the norm in every crime. The advantages of Narcoanalysis are as below:

1. As criminals these days have themselves resorted to high tech-nology to commit crimes reducing the probability of them getting caught, it is only reasonable to expect our criminal justice sytem to do the same. The old methods of investigation and interrogation may fail to catch the criminals in such cases.
2. The process is comparatively safe and is only a cause of concern if it is administered in high doses. In low doses, it only causes a temporary stupor and is much safer than the third degree torture that has "traditionally" been happening in police stations.
3. The evidence may not be reliable or admissible per se but it can be used to find admissible and direct evidence and also to corroborate said evidence.

DISADVANTAGES OF NARCOANALYSIS

1. If by mistake the dosage given to the person is much higher than their body can handle, it can result in them being comatose or even in death of the person.
2. Even after performing the whole procedure, the admissibility of the said evidence is not promised and the process may render itself useless under section 25 of the Indian Evidence Act.
3. It is a well known principle of criminal justice that the person should be fit to answer the questions but in narcoanalysis the person is in a semi conscious state.

As one author explains "It is well known that a person under the influence of alcohol may reveal information which he would not disclose when sober. Barbiturates are preferable to alcohol because results are obtained in a shorter time, under more uniform conditions which are easier to control and which are more conducive to satisfactory interrogation. The intravenous injection of a drug by a physician in a hospital may appear more scientific than the drinking of large amounts of bourbon in a tavern, but the end results displayed in the subject's speech may be no more reliable. The drugged person may be just as boastful and untruthful as the alcoholic."²²

²² JoHN M. MAcDoNxLO, "Truth Serum," JOUR. or CmRI. LAW, CRIMIXOL. AND POL.

CONCLUSION

Law is an ever changing and ever evolving discipline that gives meaning to the saying, change is the only constant. Renowned Philosopher Jeremy Bentham said that law is the cement of society. The law of evidence is concerned with finding material facts and ascertaining the truth of the matter under investigation. With changing times, as there are new advancements in science and technology everyday and criminals seem to themselves be taking full advantage of it, it is unwise to not consider the use of such scientific evidence to expedite a case if that is an option. A way to do that is by amending evidence law so that scientific evidence can be admissible as substantive law and not just oral testimony. However the question of these methods' reliability remains and for that reason Various committees and commissions have issued guidelines for the ethical and proper use of these scientific methods. One has seen many times in the past that scientific and technological advances become irrevocable traits of the culture-however drastic the problems of assimilation and adjustment they engender, and however disturbing the value choices they pose.²³ In India, as of now, the Judiciary makes use of conditional utilization of these techniques to ensure it doesn't become the norm before its accuracy levels are dependable. Polygraph and brain mapping tests are more accepted than narcoanalysis which is controversial due to the question of self incrimination. The techniques used in the form of narcoanalysis, polygraph and brain mapping may eventually be improved to a point of sufficient reliability and then they may be considered to be admitted for the evidence of guilt in a criminal case. We must ask ourselves if in the process of trying to protect the rights of the accused we are depriving ourselves of an efficient and effective tool for investigation and thus failing our ultimate duty of bringing offenders to justice. Or are we overly hyping a method of investigation that should mainly be used as a last resort. It is important to weigh the pros and cons of these techniques to ensure that the best recourse is taken for the amelioration of the Indian Criminal Just System. A clear policy stand needs to be made by the Central government on Narcoanalysis because India's freedom, freedom of an individual and a clean criminal justice system is at stake.

²³ George H Dession and Lawrence Z Freedman and Richard C Donnelly and Frederick C Redlich, 'Drug-Induced Revelation and Criminal Investigation' (1953) 62 YALE LJ 315
