



## Emerging trends in criminal investigation- Issues and challenges

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### Abstract

The criminal justice system has been a part of human society from the beginning. In the olden days, the system was a rudimentary set of rules that “set an example” against doing acts considered as crime. With the passage of time, the system evolved to achieve “Justice” rather than setting an example and justice can be achieved only when the complete facts or the truth is known. Investigation is the means to find out that truth. In criminal investigation interrogation of suspects plays a vital role in extracting the truth. Earlier confession and third-degree methods have been used to extract statement from the accused regarding the commission of crime. In today’s world where criminals are hardened, hence no information can be extracted by the above said methods. Therefore, demand of supplemental methods for detecting deception has increased concomitantly. Apart from being gross violation of human right, deception detection methods have been used as an effective tool, as it helps the investigating agencies to read the mind of suspect and to dig out concealed information. In this paper I would like to focus on the recent techniques of criminal Investigation and constitutional validity of these scientific techniques.

**Keywords:** Scientific, investigation. narco analysis, brain mapping, polygraph, privacy

### Introduction

Investigation of crime cannot be effective by using the age old techniques of torture and custodial violence during interrogation. There should be a proper balance between the rights of the victim as well as that of the accused. In order to punish a criminal according to the law of the land, there should be adequate evidence regarding the involvement of the accused. As the crimes as well as criminals are high tech now, criminal justice system requires potential use of forensic science tools along with skilled police personnel for investigation. In *D. K. Basu v. State of West Bengal* <sup>[1]</sup>, Supreme Court rightly held that, “there is a need to develop scientific techniques and methods for investigation and interrogation of accused as custodial deaths and torture is nothing else but a blow at rule of law”. Brain Mapping, Narco Analysis and polygraph test were emerged as the most powerful branch in helping law enforcement agencies in the administration of criminal justice system. The investigating agencies have carried out these tests in a number of high profile cases such as the Arushi Talwar murder case, Tandoori Murder case, Godhara Carnage, Ajmer Dargah Blast case etc. Modern methods like polygraph and brain mapping are non invasive methods that will detect deception without causing physical or mental injury to the subject. Rapidly these scientific techniques became an alternative of third degree physical torture in police custody.

#### 1. Narco Analysis

It is considered to be the most controversial tool of interrogation and has got serious criticism due to its adverse effect on right to health. The word narco is derived from the Greek word NARKE – meaning anesthesia. Black’s Law Dictionary defines as “it is a process of injecting truth serum drug into patient to induce semi-conscious and then interrogating the patient” <sup>[2]</sup>. It is often referred as “truth serum” and was first used in psychiatric proceedings to facilitate communication with the emotionally disturbed patients <sup>[3]</sup>. The idea was first

developed by rural Texas physician Robert House in the 1920’s <sup>[4]</sup>. He discovered that Scopolamine, the drug which he used as an anesthetic in his obstetrics practice, could also result in patients revealing truthful information. Narco Analysis is performed by intravenous administration of a hypnotic sedative, sodium pentothal, sodium amytal, and scopolamine to the subject. The drug is dissolved in 3000 ml of water and administered within 3 hours. The dose may vary depending on the age, sex, health, and other physical conditions of the individual. The subject is then interrogated by the Psychiatrist / Forensic Psychologist in conjunction with the investigative agency. The anesthesia doctor monitors and maintains the hypnotic trance condition of the subject. The revelations made at this stage are recorded in both video and audio cassettes; The Forensic Psychologist prepares a report on the revelations that will be accompanied by audio-video recordings. The drug causes the condition of hypnosis. Questions are put to the suspect at this stage, and his/her answers are recorded.

#### 2. Polygraph or Lie Detector Test

It is an instrument that measures and records several physiological responses such as blood pressure, pulse, respiration, breathing body temperature, and skin conductivity <sup>[5]</sup>. The origin of the polygraph examination was traced back to the efforts of Lombroso, a criminologist who experimented with a machine and he measured blood pressure and pulse to assess the honesty of suspected criminals. Since the development of the polygraph, it has been widely used by the police in criminal investigations, particularly in the USA and Japan. . The underlying theory of this test is that when people lie, they also get measurably wretched about lying. The heartbeat increases, the blood pressure increases, the breathing rhythm changes, and the sweat increases; the basis for this physiological characteristic is the questioning of the subject, the answers of which the investigator knows. In this case, the witness may, or may not, answer the questions. Response to the questions as recorded in the polygraph analysis of which it

is sought as evidence, if and when the occasion arises <sup>[6]</sup>. The polygraph is a very strong aid that may be used to find out the truth and involvement of a person in a particular crime. During a polygraph examination, the subject is asked a series of questions, and false answers will produce distinctive marks, hence it helps the investigating agency to get an idea whether the suspect is actually responsible for the crime being investigated.

### 3. Brain Mapping

The purpose of the tests is to identify the perpetrator of the crime by measuring brain waves. It is a scientific technique to find out whether or not specific information is stored in the brain of an individual. The concept is that the actual perpetrator would definitely respond to the details of the crime shown, while the innocent person would have no way of knowing or recognizing the data. The band is going to be tied over the head. Instead of being questioned, a list of photos is shown to the person who is subject to this test. In this situation, the person is interviewed and interrogated to confirm whether he/she is hiding anything or not. Extracting the truth is not an easy task, which plays a vital role in criminal investigations. In such a situation, these types of forensic tests provide immense help to investigators. For the first time in India this technique was applied in Godhra Carnage Prove case <sup>[7]</sup>. After that in Arun Bhatt kidnapping case which gained the attraction of the media as the accused appeared before the Hon'ble Supreme Court and National Human Right Commissions against undergoing this test. Though it has been used as a scientific tool, it is subject to severe criticism because of the admissibility and reliability of these tests. In India, the admissibility of scientific evidence was a serious debate in Selvi v. State of Karnataka <sup>[8]</sup>, where the Hon'ble Supreme Court held that such a scientific test could not be carried out without the consent of the accused

### Admissibility of Scientific Evidence

#### 1. Constitution of India, 1950

Application of these scientific tests involves fundamental questions relating to human and constitutional rights. Many countries have adopted in their constitution and incorporated in their statute the basic principles and philosophy generated international convention on Human rights. The Indian Constitution as well as our procedural law has many significant provision of above conventions. But these rights are not absolute and are subject to some reasonable restrictions in the interest of public welfare public order morality etc.

#### 1. 1 Self Incrimination

The main provision regarding crime investigation and trial in the Indian Constitution is Article 20(3) which deals with privilege against self-incrimination <sup>[9]</sup>. It is based on the legal maxim "nemo tenetur prodere accusare seipsum", which means "No man is obliged to be a witness against himself. This provision is inspired from the 5<sup>th</sup> Amendment of the U S Constitution <sup>[10]</sup> which prohibits the government from forcing any person to produce any sort of evidence that would incriminate that person <sup>[11]</sup>. International Covenant on Civil and Political Right 1966 also provides not to be compelled to testing against himself or to confess guilt <sup>[12]</sup>. This privilege is available to every person against whom formal accusation has been framed <sup>[13]</sup>.

Investigating authorities are prevented from doing any form of compulsion either direct or indirect, physical mental or psychological in order to extract information. Constitution of India does not permit oneself to be exposed to criminal prosecution, either at present or in future through any statement. Hon'ble Supreme Court has widened this capacity by interpreting the word 'witness to include both oral and documentary <sup>[14]</sup>. The privilege under clause (3) is confined only to an accused i. e. a person against whom a formal accusation relating to the commission of an offence has been leveled which is in the normal course may result in the prosecution. . In State of Bombay v. Kathi Kalu Oghad, a Bench of the Supreme Court consisting of eleven judges held that:

"It is well established that clause (3) of Article 20 is directed against self-incrimination by the accused person. Self-incrimination must mean conveying information based upon personal knowledge of the person giving the information and cannot include merely the mechanical process of producing documents in court which may throw a light on any of the points in the controversy, but which do not contain any statement of the accused based on his personal knowledge."

The privilege against self-incrimination thus enables the maintenance of human privacy and observance of civilized standards in the enforcement of criminal justice.

In Kathi Kalu Oghad In that case, this Court had examined whether certain statutory provisions, namely section 73 of the Evidence Act, section 5 <sup>[15]</sup> and 6 <sup>[16]</sup> of the Identification of Prisoners Act, 1920 and section 27 of the Evidence Act were compatible with article 20(3). Under section 5 and 6 of Identification of Prisoners Act, 1920 first class judicial magistrate is competent to order taking of specimen fingerprint, handwriting, thumb impression, impression of foot, palm fingers, and showing parts of body by way of identification, for an investigation or proceedings under Cr P C and that would not be hit by Art 20(3) of the Indian Constitution as being witness against himself <sup>[17]</sup>. Section 73 of the Evidence Act empowered courts to obtain specimen handwriting or signatures and finger impressions of an accused person for purposes of comparison <sup>[18]</sup>. Hand writing or finger printing are only materials for comparison in order to lend assurance to the Court that its inference based on other pieces of evidence is reliable. They are neither oral nor documentary evidence but belong to the third category of material evidence which is outside the limit of 'testimony <sup>[19]</sup>. The question whether scientific test used for investigation is violative of Article 20(3) was decided in State of U P v. Boota Singh <sup>[20]</sup>. In this case Hon'ble Supreme Court held that "If the accused is directed to provide specimen signature and handwriting samples, then it does not amount to testimonial compulsion". Similarly, when an accused is directed to undergo a scientific test then he is not directed to give any specific statement. It is in a way searching of a person and under Indian law search and seizure is permitted and is not violative of Article 20(3).

In India the main controversy against the usage of these scientific test like Narco Analysis, Polygraph, and Brain Mapping were arose on when Bombay High Court pronounced judgment in Ramchandra Reddy v. State of Maharashtra <sup>[21]</sup>. The question considered in this case was whether interrogative use of narco analysis, polygraph or Brain Mapping were violative of 20(3) of Indian

Constitution. Court held that by using these test there were no compulsion to the accused or witness to incriminate himself hence no question of violation of 20(3) of Constitution. Article 20(3) provides privilege against testimonial compulsion. But there were no question of compulsion in these scientific tests hence there is no question of law as to the interpretation of the constitution<sup>[22]</sup>. The Court concluded that administration of these scientific tests even against will of a person does not violate Constitutional right guaranteed to accused person.

Another important decision which was concerned with need of a scientific test was *Rojo George v. Deputy Superintendent of Police*<sup>[23]</sup> where the petitioner contended that narco analysis test is extremely dangerous as it is conducted after administering sodium pentathol which would affect the nervous system. But the CBI averred that the test was conducted by experts after taking all precaution. Even if it has any adverse reaction, which is remote possibility as it will happen when any medicine is used. The Court finally opined that this test does not violative of Article 21 or 20(3).

Conducting the aforesaid tests on accused is to be considered as process of collection of evidence by the investigating agency. These are valuable technique which would help the investigating agency to further investigate the crime when the investigating agency finds itself clueless and there are no other ways in the investigation. As it is the statutory right of investigating agency to conduct investigation in order to find out truth they can use any methods to extract the truth except the third degree. Investigating officers cannot be prevented from interrogating on the ground that these scientific test are violative of Constitutional right.

### 1. 2 Right to Silence

Constitution of India does not guarantee right to silence as right of a person but protective scope of Article 20(3) extends to investigative stage in criminal cases when read with section 161(2) of the Code of Criminal Procedure, which protect accused person, suspect as well as witnesses who are examined during investigation<sup>[24]</sup>.

Section 161 empowers the investigating police officer to examine orally any person who is supposed to be familiar with the facts and circumstances of the case. For example, section 161(2) stipulates that when a person is examined by a police officer, he or she is not bound to answer those questions, the answers of which would tend to expose him or her to a criminal charge or a penalty or forfeiture. It is evident from this section that it allows a person to choose silence in response to a police officer's questioning during the investigation stage. In *Nandini Sathpathy v. P. L. Dani*<sup>[25]</sup>, it was held that "no one could forcibly extract statements from accused who has right to keep silence during the course of interrogation or investigation".

Those who are against this test contend that these types of scientific test are violative of right to silence also. Hon'ble Supreme Court in *Dinesh Dalmia v. State*<sup>[26]</sup> observed that where the accused had not allegedly come forward with the truth, these type of scientific tests are resorted by the investigation agency and such a course does not amount to testimonial compulsion.

Though the critics says that statements collected through these scientific test amounts to compelled testimony within the meaning of Article 20(3), but it is to be noted that it

aims to control the abuse of power of Police by using coercive means such as third degree. If these tests are done properly, after following all the precautionary procedures it will fall within the objective of criminal trial which intend to give fair trial to accused as well as to the victim.

### 1. 3 Right to Life and Personal Liberty

Article 21 is considered to be the heart of the Indian Constitution<sup>[27]</sup>. The object of Article 21 is to protect and preserve certain human right interferences by the state<sup>[28]</sup>. Though Article 21 explicitly covers right to life and personal liberty, there are several other rights which will come within the ambit of Article 21<sup>[29]</sup>. The term life includes all those aspect of life which go to make a man's life meaningful, complete and worth living<sup>[30]</sup>. Those who are against this test contended that it is a violation of procedure established by law. As there is no procedure under the Code for using this scientific tool for investigation this can be viewed as clear violation of Article 21. They also contend that in *Maneka Gandhis case*<sup>[31]</sup> it was held that procedure for depriving the liberty of person should be fair reasonable and just.

But these scientific tests are not violative of Article 21. Investigation is the statutory right of police officers and its purpose is to collect evidence. Code of criminal procedure makes it clear that investigation includes all procedure under the Code for collection of evidences.

### 1. 4 Right to Privacy

After the decision of *Maneka Gandhi case*, the expression life was enormously include right to privacy, which is one of the important right implicit in Article 21. Though Constitution of India does not guarantee right to privacy as a fundamental right of person, the crucial argument against these scientific tests are that, it is a violation of right to privacy which can be included under article 21 of the Constitution. Narco Analysis has raised profound privacy concerns of the person by its invasion or the mental process of a subject. The person under the effect of drugs loses control over his mind and there is always a risk that a semiconscious mind may reveal personal information which are not relevant to the investigation and even innocent people might be named during interrogation which may later proved to be harmful to persons reputation. But it is to be noted that Right to privacy is not an absolute right it can be reasonably curtailed<sup>[32]</sup>. Fetters can be put on right to privacy in the interest of State as stated by Supreme Court in *State of Gujarat v. Anirudh Singh*<sup>[33]</sup>.

In *Bhagwan singh v. State of Punjab*<sup>[34]</sup>, the court held that, it may be the legitimate right of any police officer to interrogate or arrest any suspect on some credible material but must be in accordance with law. They are doing sacred duty of assisting the court by giving evidence relating to the commission of an offence.

For this reason, narco-analysis, brain mapping and polygraph testing is nothing but an efficient and scientific method of investigation. In India, where the right to life is a fundamental right, there is also a sad picture of custodial crimes. Custodial rape, death, tortures. All these are violations of right to life, including the right to live with human dignity<sup>[35]</sup>. There are thousands of cases of custody torture in which the accused involved a large number of injuries in order to extort information about theft and eventually the accused died<sup>[36]</sup>. Newspapers are packed

with such unfortunate incidents. Custodial crime is a violation of the fundamental rights of the accused to undergo a scientific test which is much better than allowing him to face a third degree.

### 1. 5 Right to Health

Earlier Right to health was a part of directive principle of State policy<sup>[37]</sup> and it was the duty of State to look after the health of people at large. Later our judiciary has given recognition to right to health comes under the scope of Article 21 of Constitution. In *Vincent Panikurlangara v. Union of India & Ors*<sup>[38]</sup> it was held that healthy body is the establishment of all human activities.

In *Rojo George v. Deputy Superintendent of Police*<sup>[39]</sup>, the petitioner argued that this test was extremely dangerous as the drugs used in the test would affect the nervous system with sodium pentathol. This scientific test is therefore a violation of the right to health guaranteed by Article 21 of the Constitution. But the court held that, if this was done under the strict supervision of the medical team, there could be no infringement of the procedure laid down by law. Conducting brain mapping, polygraphs are like MRI and CT scans, and their credibility can be assessed on the trail. Court also asserted that techniques such as polygraph and brain fingerprinting are non-invasive methods that detect deception without causing physical or mental injury.

If the investigating authority convinces the conditions under which the test was carried out and the precautions taken by the medical personnel while administering the drugs to the accused, the right guaranteed to the accused will not be affected. The Narco analysis is neither barbarous nor irrelevant, because the doctors and psychotherapists claim that the doses consumed by the suspect are not that high or low, which could lead to a different and irrelevant response. These tests are of assistance to investigative agencies for the collection of evidence and are very useful when it is necessary to obtain the necessary information for the prevention of offences. Such a scientific test is an alternative to a third degree, but care must be taken to ensure that this procedure is not misused or abused by the investigating authorities.

Such a scientific test cannot be regarded as in violation of Article 20(3) and Article 21 of the Constitution of India. But it could be seen as supporting the fundamental right. The right to a speedy trial is the right of both the accused and the victim. If it is not quick and quick, it cannot be regarded as a reasonable, fair and just procedure guaranteed by Article 21 of the Constitution. The use of modern investigation techniques helps to ensure a speedy and fair trial. If the investigation is not fair, both the accused and the victim must have suffered. The purpose of the Criminal Justice Administration is to bring justice to the accused victim as well as to society. But our legal system is moving in a direction that makes life extremely easy for criminals and too rough, difficult and difficult for citizens.

In India, the criminals are high tech, and we're going behind the criminals. In order to keep the investigation up to date with modern criminals, we should suffer the legal drawbacks of this test. Administration of this test will always provide reasonable grounds to believe that it will provide clues for the investigation process. These methods should therefore be adopted in order to eradicate custodial torture. It should be done as part of the interrogation techniques when the situation demands it.

## Applicability of These Scientific Tools in Criminal Jurisprudence

### 1. Indian Evidence Acts, 1872

Indian Evidence Act is a uniform legislation for both civil and criminal laws. Though the degree of proof required may be somewhat different in both cases as regards the scientific investigation and its evidentiary value section 27<sup>[40]</sup> of the Indian Evidence Act is relevant.

#### 1. 1 Section 27

Evidentiary values of these scientific tests are the most crucial and debatable issue even now worldwide. While using these scientific tests especially in narco analysis subject is not in a position to speak, but he can answer specific simple questions. By dosage of medicine it becomes difficult for him to lie and his answers would be restricted to the facts he is already aware of it. The person who is undergoing these tests does not exercise conscious control over this process and often been criticized as against the tenets of Constitution. Indian evidence is silent whether these scientific tests have evidentiary value?

Section 27 of Indian Evidence Act, 1872 greatly facilitate evidence adduced by scientific tools and any information given or obtained in the process of investigation which is confirmed by the finding of any object or fact is admissible in the court. Recovery made even by undesired means is no bar to its use in court. If scientific techniques are taken into consideration these are not at all illegal or unlawful. Once recovery is made with the help of scientific tools and techniques, prosecution can easily establish the close link between discovery of a material object and its use in the commission of an offence. The use of narco – analysis, polygraph and brain-mapping would greatly facilitate investigating authorities for recovery of material evidences by use of the statement given by accused with the use of this scientific tool. Hence discovery made in pursuance of scientific tool would be admissible as like any other discovery under section 27 of Indian Evidence Act. This position was also clarified by the Hon'ble Supreme Court in *Selvi v. State of Karnataka*<sup>[41]</sup>

In the light of these conclusions, we hold that no individual should be forcibly subjected to any of the techniques (Lie Detector Test, Polygraph Test, Narco-Analysis Test and Brain Mapping Test) in question, whether in the context of investigation in criminal cases or otherwise. However, any information or material that is subsequently discovered with the help of voluntary administered test results can be admitted in accordance with Section 27 of the Evidence Act, 1872...<sup>[42]</sup>

Scientific investigation can make circumstantial evidence more reliable and can disprove biased oral evidence. However introduction of scientific technologies become controversial as it hampers some fundamental legal principles.

#### 1. 2 The Code of Code of Criminal Procedure, 1973

Investigating officers are the masters of investigation and no agency can interfere in the matters of investigation except under certain circumstances<sup>[43]</sup>. As part of investigation investigating agencies can collect evidence which has been permitted under section 157<sup>[44]</sup>. For effective investigation provisions for medical examination has been incorporated under Code of criminal Procedure by sections 53<sup>[45]</sup> and 54CrPC<sup>[46]</sup> which says that, if there are reasonable ground

for believing that examination of arrested person will afford evidence as to the commission of crime then medical examination can be conducted by registered medical practitioner. The scope of section 53 Cr P C was expanded in 2005 by the Code of criminal procedure (Amendment) Act, 2005 to include the examination of blood, blood stains, semen, swabs in case of sexual offence, sputum and sweat, hair samples and finger nail clippings, by the use of modern and scientific technique including DNA profiling and such other tests which the registered medical practitioner thinks necessary in a particular case. 2005 amendment is a protective and positive recognition of scientific test. It empowers the investigating agencies to adopt efficient scientific methods for investigation<sup>[47]</sup>. Section 53 contemplates the use of force as is reasonably necessary for conducting a medical examination. This means that once a court has directed the medical examination of a particular person, it is within the powers of the investigating agencies and the examiners to resort to a reasonable degree of physical force for conducting the same. By this amendment the legislature intended to include all modern and scientific methods for conducting investigation. Conducting these tests on accused is to be considered as process of collection of such evidence by the Investigating agencies as these are scientific methods in furtherance of the investigation. It is valuable technique which would help the Investigating agency to further investigate the crime when the Investigating Agency finds itself clueless and there are no other ways to proceed with the investigation. As there is no specific procedure under the Code of Criminal procedure for doing these scientific tests its legality is always questioned before judiciary.

### **Judiciary and the Scope of These Scientific Tools of Investigation**

The constitutionality and evidentiary value of scientific evidences had been a serious issue in India till the decision of Supreme Court in *Selvi v. State of Karnataka*<sup>[48]</sup>.

The main issue involved was whether narco analysis, brain mapping, and polygraph could be used as constitutionally valid method for gathering evidence. This issue has received considerable attention since it involves tensions between the desirability of efficient investigation and the preservation of individual liberties. In this case contention of the petitioner was that Parliament was well aware of impugned technique at the time of Cr P C amendment 2005 and not included these techniques in the amended explanation to section 53, section 53A, and 54 Cr P C. He was also argued that blood, semen, sputum, sweat hair and fingernail clippings can be really characterized as physical evidence. Section 53 and 54 Cr P C includes examination of physical evidence and not that of testimonial acts.

The counsel for state contended that phrase 'modern and scientific techniques including DNA profiling and such other tests' should be liberally construed to include the impugned techniques. It was argued that even though the narco analysis technique, polygraph examination and brain mapping test have not been expressly stated as, they could be read by examining the legislative intent. He had also submitted that with the use of these impugned techniques, the intention of the investigators is to extract information and not to inflict any pain or suffering.

If the compulsory administration of the impugned techniques amounts to intrusion into personal liberty, it is

justifiable since there is a compelling public interest to eliciting information. Honourable Supreme Court reached the conclusion that, in our considered opinion, the compulsory administration of the impugned techniques violates the 'right against self-incrimination' and the use of Narco-analysis, brain-mapping and polygraph tests on accused, suspects and witnesses without their consent as unconstitutional and violation of the 'right to privacy'.

Court also reminded 'Guidelines for the Administration of Polygraph Test (Lie Detector Test) on an Accused' which was published by the National Human Rights Commission in the year 2000. These guidelines should be strictly adhered to and similar safeguards should be adopted for conducting the 'Narco analysis technique' and the 'Brain Electrical Activation Profile' test.

Narco analysis test played a pivotal role in *Central Bureau of Investigation v. Father Thomas Kottoor, and another*<sup>[49]</sup>. The facts in brief are; Abaya 21 year old nun, was found dead on 27<sup>th</sup> March 1992, and her body was recovered from a well at St Pius xth Convent, Kottayam, where she was lived then. This case, though initially ruled out as a suicide by the police. It was only when the investigation was taken over by the CBI that a lot of facts came to light. The case took almost 28 years to decide. At the time when the murder happened in the year 1992, the investigation methodologies and technology hadn't developed enough to be able to collect DNA evidence. The investigation was heavily relied on circumstantial evidences. The case got even more complicated when many witnesses turned hostile. As the case involved people with a lot of power, the evidence was tampered with, making the case very difficult to prove. It was when even after so many years of investigation, the narco test was allowed to be used them which turned the case around, and helped the investigation to discover the truth in the case.

The use of these type of scientific tool in this case helped the prosecution to convince the guilt of accused who used power and other methods to jeopardize the case and evade justice. However it was these newer developments in the field of investigation that helped to uncover this case. This case is a good example of how technology can help to advance the process of investigation. In this case CBI Court awarded life imprisonment and fine to both.

Though Narco Analysis Polygraph tests and brain mapping tests had great controversy on account of self incrimination and in some cases even having a detrimental effect on the health of persons taking such tests, these modern technologies have come to the aid of investigators when all else has failed. These test can be used sparingly in cases where the need arises, however, more restrictions the use of such tests will only be detrimental to the effectiveness of the criminal Justice system and the process of investigation.

### **Conclusion**

A criminal justice system which is well acquainted with the technological advancement of the world is the need of hour. These technologies can be used in the prevention of crime and bring the criminals in the arena of law. At the same time the technology should not lead towards violation of rights of citizens. Though these technologies have become need of investigating agencies but due to some constitutional and legal issues there are debatable issues in this field. After the decision of *Selvi* it can be shown that the use of narco analysis is reduced but the decisions like

Ajmal Kasab and shows that it can be used as an interrogative tool in Terrorism, financial fraud, serial killing and heinous crimes after complying the strict guidelines of National Human Right commission and guidelines of Supreme Court. These tests will be helpful for saving innocent persons and eliminate the use of third degree methods in interrogation.

Brian mapping technique determines guilty knowledge stored in the brain, in polygraph test polygraph examiner carefully analyzes the responses and incase of narco analysis investigating agencies can collect answers to certain specific questions. This is the reason the apex court never absolutely denied the use of narco analysis test. Indian Judiciary finally permitted the conditional use of these tests for extracting truth. But in the absence of its express provision its legality is still questioned before the judiciary.

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7. The Godhra Train Burning was an incident that occurred on the morning of 27 February 2002, in which 59 Hindu pilgrims and karsevaks returning from Ayodhya were killed in a fire inside the Sabarmati Express train near the Godhra railway station in the Indian state of Gujarat.
8. Selvi v. State of Karnataka, AIR 2010 SC 1974; (2010) 7 SCC 263.
9. See India Const. art. 20 cl. 3. No person accused of an offence shall be compelled to be a witness against himself.
10. According to 5th amendment of US Constitution.
11. No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb.
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24. See The Code of Criminal Procedure, 1973, S. 161 (2), Acts of Parliament, 1973 (India). Such person shall be bound to answer truly all questions relating to such case put to him by such officer, other than questions the answers to which would have a tendency to expose him to a criminal charge or to a penalty or forfeiture.
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26. Dinesh Dalmia v. State, 2006 CriLJ 2401. In this case huge amount has allegedly been misappropriated by the accused and the investigating agency is completely in the dark as to the end use of such a huge amount.
27. See Article 21 of Indian Constitution guarantees "No person shall be deprived of his life or personal liberty except according to procedure established by law. "The Article prohibits the deprivation of the above rights except according to a procedure established by law.
28. This right guarantees right to life and personal liberty which are necessary to survive in a society. Personal liberty is the right of an individual to be free from restrictions or encroachment of his personality whether directly imposed or indirectly brought about by calculated measure.
29. After the decision of Maneka Gandhi, scope of Article 21 includes Right to live with human dignity, Right to livelihood, Right to shelter, Right to privacy, Right to health and medical assistance, Right to sleep, Right to die, Right to Education Right to free legal aid, Right to speedy trial etc.
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32. Rohit Shekhar v. Naryan Dutt Tiwari, (2001(4) RCR (Criminal) 307(Delhi
33. State of Gujarat v. Anirudh Singh, (1997) 6 SCC 514
34. Bhagwan singh v. State of Punjab, (1992) 3 SCC 249
35. Haricharan v. State of M. P, 2011(2) RCR (Criminal) 330(SC).
36. V. Shekhar v. State of Karnataka, 1991 Cri and J. 1100
37. Article 38 of Indian Constitution imposes an obligation on the State that states will make sure about a social request for the advancement of government assistance of the individuals however without general health we can't accomplish it. It implies without general health government assistance of individuals is unthinkable
38. Panikurlangara v. Union of India & Ors, 1987 AIR 990, 1987 SCR (2) 468.
39. Rojo George v. Deputy Superintendent of Police, 2006 (2) KLT 197.

40. Indian Evidence Act, 1872, S. 27, Acts of Parliament, 1872, (India). 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.
41. Selvi v. State of Karnataka, AIR 2010 SC 1974.
42. Selvi v. State of Karnataka, AIR 2010 SC 1974 at Para 264.
43. The Code of Criminal Procedure, 1973, S. 156(3), Acts of Parliament, 1973 (India).
44. The Code of Criminal Procedure, 1973, S. 157, Acts of Parliament, 1973 (India)
45. The Code of Criminal Procedure, 1973, S. 53, Acts of Parliament, 1973 (India). Examination of accused by medical practitioner at the request of police officer.
46. The Code of Criminal Procedure, 1973, S. 54, Acts of Parliament, 1973 (India). Examination of accused by medical practitioner at the request of arrested person.
47. The Code of Criminal Procedure, 1973, S. 53 A, Acts of Parliament, 1973 (India).
48. Selvi v. State of Karnataka, (2010) 7 SCC 263.
49. Central Bureau of Investigation v. Father Thomas Kottoor, and another, C. P. No. 2/2009 of CJM, Ernakulam