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Scientific Evidence and Its Applicability in Criminal Proceedings: Issues and Challenges

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ABSTRACT

Every case that comes before a court of Law has a fact story behind it. Facts out of which cases arise keep happening in the ordinary course of life. The First and foremost duty of every court is to ascertain the existence of certain facts, by which the right and liability could be decided of the parties of the case. Only through evidence the courts are enable to disposed the cases of the parties. Evidence plays a vital role in criminal justice. In the modern age, where science and technological development are at their peak, the procedure of trial in courts are still going as traditional. The Law of evidence, recognizes direct evidence in every judicial proceedings, but it becomes highly impossible to find direct evidence in all circumstances. Therefore in such circumstances scientific evidence can play a significant role in Administration of justice. It is therefore need of the hour a comprehensive law has to be brought in to regulate, regarding scientific evidence and its admissibility in trials.

I. INTRODUCTION

Every case that come before a court of Law has a fact story behind it. Facts out of which cases arise keep happening in the ordinary course of life. There is crowded road, people are moving, vehicles are moving. Everyone is running at an unmitigated speed. Suddenly two vehicles run against each other, one of them being loaded with dynamite the accident produces an explosion with a shocking noise as a result of which a nurse is a nearby hospital drops a child from her hands injuring the child. Cases arising out of the accident will flow into the courts. In each case the nature and cause of the accident would be in question. The facts which led up to the climax will have to be recaptured or reconstructed before the court, so that the judge is able to appreciate the real happening. only then he will be in a position to apply the appropriate Law to the facts to arrive at a just solution about the rights and liabilities of the parties. Thus, whenever a judge is called upon to pronounce upon the rights and liabilities of parties arising out of facts, certain information about the facts involved must

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be submitted to him which will create a belief in his mind as to what the real facts are. Facts must be proved in the first instance and then only the matter is ripe for application of relevant laws. The practical reality is that the truth or merits of a case are worthless unless they can be proved to the acceptance of the judge and thereby to enable him to act on them. The means by which facts are proved are governed by the Law of Evidence. Evidence means any oral or documentary statement by which, solve the incident of crime or could be reached upto the culprit. Evidence is an instrument which goes to deaf of root of crime and reveals or exposed the cause of it. The function of the Law of evidence is to lay down rules according to which the facts of a case can be proved or disproved before a court of Law. The means which can be used to prove a fact are all controlled by the rules and principles laid down by the Law of evidence. Section 3 of Evidence Act Define the terms Evidence as: Evidence means and includes – (i) all statements which the court permits or requires to be made before it by witnesses, in relation to matters of fact under inquiry, such statements are called oral evidence. (ii) all document, including electronic records, produced for the inspection of the court, such documents are called documentary evidence.

The above definition of evidence does not refer to the kind of evidence which is known in English Law as the real evidence. This is a third category and refers to the material objects produced for the inspection of the court and would include objects like photographs, murder weapon, blood stained, clothes, DNA profile report, brain mapping test, finger print etc. Even these can be regarded as documents. A document means anything which is a permanent record of the happening of a fact and a blood stained instrument or cloth is a record of some fact. The Law of evidence doesn't affect substantive rights of parties but only lays down the Law for facilitating the course of justice. The Evidence Act lays down the rules of evidence for the purposes of the guidance of the courts. It is procedural Law which provides 'inter alia' how a fact is to be proved. According to the provisions of the Law of evidence, the court will settle or dispose all cases on the basis of direct evidence, but when direct evidence could not be available, the court adopts other means of evidence, in which scientific evidence can play an important role respectively.

II. SCIENTIFIC EVIDENCE

Scientific evidence is evidence which serves to either support or counter a scientific theory or hypothesis. Such evidence is expected to be empirical evidence and interpretation in accordance with scientific method. Standards for scientific evidence vary according to the field of inquiry, but the strength of scientific evidence is generally based on the results of

statistical analysis and the strength of scientific controls. There are many types of evidence that are commonly used at trial, including items found at the crime scene and eyewitness, testimony, scientific and forensic evidence can be extremely helpful in providing the case, since they can often reveal otherwise hidden clause about the incident. However, there are rules and standards that these types of evidence must meet before they can be submitted during a trial. In general, scientific evidence is based on knowledge that has been developed by using the scientific method. This means that the basis of the evidence has been hypothesized and tested and is generally accepted within the scientific community. This could mean that the theory on which the scientific evidence is based has been published in scientific journals and has been subjected to peer review within the scientific community.

Generally, many types of forensic evidence are often considered as scientific evidence, like DNA matching, Finger print identification, brain mapping, lie detector test (Polygraphs testing) and hair/fiber evidence. The methods used to develop these types of evidence are generally beyond the scope of knowledge that judge and jury possess and are therefore normally introduced as scientific evidence.

If the evidence includes samples of blood, hair, skin or other evidence that can include DNA, it can often be used to prove that the person accused could not have committed the crime. Moreover, if it turns out that the DNA matches a profile in a database, such as CODIS,³ the real criminal can be located and tried. Scientific evidence refers to the evidence presented in court after scientific tests or studies. It serves to support or counter a scientific theory or hypothesis. Scientific evidence is the result of objective testing of a theory or hypothesis in a way that can be reproduced by others. For example, test in an experiment or controlled trial.

Competent and reliable scientific evidence means tests, analysis, research, studies or other evidence based on the expertise, of professionals in the relevant area, that has been conducted and evaluated in an objective manner by persons qualified to do so, using procedures generally accepted in the profession to yield accurate and reliable results.⁴ There are some scientific evidence and their techniques are given below:-

(1) **DNA Profiling** – The procedure for creating a DNA fingerprint consists of first obtaining a sample of cells such as skin, hair and blood cells, which contain DNA. The DNA is extracted from the cells and purified. DNA fingerprinting also called DNA typing, DNA profiling, genetic finger printing, genotyping or identity testing in genetic method of isolating and identifying variable elements within the base-pair sequence of DNA

³ CODIS (Combined DNA Index system which contained about 1.7 million DNA profiles as of 2003.

⁴ FTC V. Direct Marketing, Concepts, Inc. 2004. U.S. Dist. Lexis 11628 (D Mass 2004).

(deoxyribonucleic acid). The technique was developed in 1984 by British geneticist, **Alec Jeffreys**. Jeffreys recognised that each individual has a unique pattern of minisatellites (the only exceptions being multiple individuals from single zygote such as identical twins). DNA profiling is a forensic technique in criminal investigations, comparing, criminal suspects' profiles to DNA evidence so as to assess the likelihood of their involvement in the crime.⁵ It is also used in parentage testing⁶, to establish immigration eligibility⁷ and in genealogical and medical research. DNA profiling has also been used in the study of animal and plant populations in the field of zoology, botany and agriculture. It is a very sensitive technique which only needs a few skin cells, a hair root or a tiny amount of blood or saliva, by which it can discover, who committed this crime? DNA profiling is especially useful for solving crime. But it can be used also in the solution of problem of paternity. It is one of the most modern growing and trustworthy modes of investigation in forensic science. The growth of DNA is a welcome step and it has become more and more trustworthy instrument. Indian courts have accepted the DNA evidence not only in paternity but also in criminal paternity case, likewise in **Rajiv Gandhi murder case**. The DNA samples of alleged assassin Dhanu were compared with her relatives by which investigation agencies got conclusive proof about her being involved in the shocking attack. Similarly in the famous Tandoor murder case,⁸ the DNA samples of the injured party Naina Sahni were compared with that of her parents to set up her identity.

(2) **Fingerprints** – It is an universal truth that everybody has a particular finger print on his/her hand. These fingerprint evolved in the womb of mother. We can say each person has different finger prints, two people have no same fingerprints. Scientist proved this fact that there is one in 64 billion chances that your finger print will match with others. Finger prints are even more unique than DNA profiling. This science is more reliable than DNA technology. We know that fingerprints also used in the solving of crime. Our courts also permit the admissibility of evidence of fingerprints. Our Law also permit of taking the fingerprint of accused and suspected person. So investigation agencies take fingerprints of suspected person. Explanation of section 53 of criminal procedure code 1973 clearly says that investigation officer has power to get finger prints of accused. Lastly we come on the conclusion that finger prints technology more reliable science. Court easily accepts the evidence regarding the fingerprints.

⁵ Murphy, Erin (2017-10-13) 'Forensic DNA Typing' Annual Review of Criminology 497-515.

⁶ Petersen, K. J. Handbook of surveillance technology 3rd ed. Boca Raton, F. L. CRC Press, 2012, p. 815.

⁷ DNA Pioneer's 'eureka' moment BBC retrived 14 October 2011.

⁸ 1996, Cri. L. J. 3944

(3) **Brain mapping test P300 test** – This test was developed by the Dr. Lawrence A Farwell in the year of 1995. This technique is also called as Brain wave finger printing. In this technique, the suspect is first interviewed and interrogated to find out whether he is concealing any important information, then sensors are attached to the head and the person is made to sit in front of computer monitor. He is then shown and made to hear certain images and voices. The sensor attached to head monitors and records electrical activity and P300 waves in the brain which is produced only if the subject has link with stimulus. The subject is not asked any question. To put it simply, it means that brain finger printing matches the information stored in the brain with that of the related crime and crime scene. In case of an innocent person no such P300 waves would get registered during the test. Actually in this test accused interrogated by the expert and ask some questions regarding the crime. The sensors are attached with his mind and his body. If he gives false information then the brain waves will be different. It is also recorded by expert. Then the forensic expert analyse the data which is obtained under examination of this test. Afterwards come into the conclusion that this is saying true or not.

(4) **Narco Analysis Test** – The term Narco-analysis is derived from the greek word narkc means ‘Anesthesia or torpor’ and is used to describe a diagnostic and psychotherapeutic technique that uses psychotropic drugs. In this technique a fixed quantity of sodium pentothal or sodium Amytal (3 grams of sodium pentothal or sodium amytal dissolved in 3 ltrs. of distilled water) administered to suspected person in a Narco test for getting of state of hypriotism. Such a test is generally conducted on an accused that is not ready to give true information. Once, any person put into this test he is half sleep and answers the questions truthfully. This technique has first reached the mainstream in 1922, when Robert House, a Taxas obstetrician used the drug scopolamine on two prisoners.⁹ However this test is not admissible in a court of Law. But certainly it helps in the collection of evidence. This also helps prosecution and investigation. The first narco-analysis was done in the Forensic Science laboratory Bangalore in 2001¹⁰ for conducting the test, the National Human Rights Commission has laid down certain guidelines for the conducting of this test, the Narco substance should only be administered if the accused gives consent before a magistrate. Then police officer should be ready for conducting this test. However, these guidelines are not mandatory but only recommendatory in nature. Therefore enforcement machinery is not bind

⁹ Is Narco Analysis a reliable science – present legal scenario in India written by : Subho Jyoti Acharya Site an www.legalserviceindia.com. See also ‘use of modern techniques in investigation by police by Dr. Kavita Dhull M.D. University Rohtak, Haryana.

¹⁰ Lakshman Sriram, Narco analysis and some hard facts, *frontline*, volume 24 Issue 9, May 2007.

to follow. In 2006 however, the supreme court stayed the order of trial court to conduct Narco-analysis. This was the first and only case in respect of Scientific Techniques which had gone in the supreme court.¹¹

(5) **Polygraph or lie Detector test** – The literal meaning of word polygraph is ‘many writings’. This test first attempted by Lombroso to identify reality or frauds as early as 1895. In this test six sensor are attached with person who is giving the statement under this test. A polygraph is a machine in which many signals are given from the sensors and recorded on a single strip of moving paper.

- (i) The breathing rate of the person.
- (ii) The pulses of the person.
- (iii) The blood pressure of the person.
- (iv) The perspiration of the person.
- (v) This will also record things like arm & leg movement sometimes.

When this test starts first check the consciousness of the person so examiner first ask three and four question. Afterwards real question are asked from the person who is under this test. While doing this test one expert looks the graph of the machine and also considers the breathing rate of the person, the pulses of the person, the blood pressure of the person, the perspiration of the person and also record things like arm and leg movement some times. After wards the expertise examine the report which is obtained after conducting this test, make a report. The scientist named Keeler further developed the polygraph machine by adding a psychogalvanometer to record the electrical resistance of the skin.¹²

(6) **Ballistic Finger printing** – Ballistic finger printing refers to a set of forensic techniques that rely on marks that fire arms leave on bullets to match a bullet to the gun it was fired with. In ballistic finger printing the distinct marking left on ammunition as a result of its use in a particular weapon. This scientific technique works in two phases. In the first phase expert, see the bullet in which arms this can be used and which company makes this bullet. In the second phase experts check the gun. Because when any gun is used then it leaves some scratches in the gun barrel. By this method, they can easily solve the problem which gun is used in this crime.

¹¹ See also Selvi V. State of Karnataka AIR 2010 Sc 1974.

¹² An article ‘Narco Analysis : A volcano in criminal investigation system’ by Gagandeep Kaur.

III. FUNDAMENTAL RIGHTS VIS-A-VIS APPLICABILITY OF SCIENTIFIC EVIDENCE

Part III of the Constitution of India titled as 'Fundamental Rights' secures to the people of India, certain basic, natural and inalienable rights. These rights have been declared essential rights in order that 'human liberty may be preserved, human personality developed and an effective social and democratic life promoted. Fundamental rights are basic human rights by which every human being can develop his personality to the fullest extent. They weave a pattern of guarantees on the basic structure of human rights and impose negative obligations on the state not encroach on individual liberty in its various dimensions, these cannot be curtailed and cannot also impose any restrictions without any reasonable grounds. The constitutional Law is the supreme Law of the land of country and every Law and orders which is passed by competent authority, such authority is bound to adherence of the constitution. In this regard Article 13 clearly provides that all laws in force in the territory of India immediately before the commencement of this constitution in so far as they are inconsistent with the provision of this part, shall to the extent of such inconsistency be void. Clause (2) of this Article says, "the state shall not make any law which takes away or abridges the rights conferred by this part and any law made in contravention of this clause shall, to the extent of the contravention, be void". Clause (1) and (2) of Article 13 thus declare that laws inconsistent with or in contravention of the fundamental rights shall be void to the extent of 'inconsistency or contravention' as the case may be. It is to be pointed out that, not only the Law which is made by legislative authority would be void under the contravention of this section, but this would also apply on executive actions. Any order passed by executive authority even an inquiry order or an investigation order will be treated as void if it is inconsistent or contravention to the constitution or encroach the fundamental right of an individual. Although the fundamental rights are not absolute right and reasonable restriction can be imposed, what is reasonable restrictions this can vary and depend on subject matters. Clause (3) of Article 20 of Indian constitution provides 'No person accused of any offence shall be compelled to be a witness against himself'. This clause is based on the maxim 'nemo tenetur prodere accusare seipsum' which means that 'no man is bound to accuse himself. It is known as **Miranda principle**.¹³

Clause (3) of Article 20 follows the language of the fifth amendment of the American constitution which lays down that 'no person shall be compelled in any criminal case to be a witness against himself'.

¹³ The principle was explained in *Miranda v. Arizona* 384 U.S. 436 (1966) quoted in *Mohd. Ajmal Amir Kasab V. State of Maharashtra*. AIR 2012 SC 3565.

The clause embodies the general principle of English and American Jurisprudence according to which no person would be compelled to give testimony which might expose him to prosecution for a crime.

The characteristic features of common law criminal jurisprudence are that an accused must be presumed to be innocent till the contrary is proved, that it is the duty of the prosecution to establish the guilt of the accused and that the accused need not make any admission or statement against him of his own free will. The protection is available only if the following ingredients are present:-

- (i) It is a protection available to a person accused of an offence.
- (ii) It is a protection against compulsion to be a witness and
- (iii) It is a protection against such compulsion as resulting in his giving evidence against himself.

Protection against self-incrimination in a criminal trial is a fundamental human right and no accused could be compelled to give any evidence which led himself into any conviction an accused can deny or refusal to express any statement relating to any criminal activity, if he think that such statement would be contrary to his/her interest or shall be in-criminatory. In many legal system accused 'criminals' cannot be compelled to incriminate themselves, they choose to speak to police or other authorities, but they cannot punished for refusing. In the modern age the scientific technique has been developed by which scientific modern evidence are collected. Scientific evidence plays an important role in criminal proceedings. But there are some weaknesses of such evidence. Now the question arises, what is the applicability of this types of evidence, whether this can be admissible if so then what would be the evidentiary value of such evidence.

Because the admissibility and refusal of this scientific evidence i.e. DNA fingerprints, Brain mapping test, Narco analysis test etc. has become a great controversy in criminal jurisprudence, some jurist are in favour of this evidence while some present their opposition to it, if such tests administered without consent of accused.

The issue of involuntary administration of certain scientific techniques namely narco-analysis, polygraph examination and the Brain Electrical Activation Profile (BEAD) test for the purpose of improving investigation efforts in criminal cases, has received considerable attention of the supreme court. Since it involves tensions between the desirability of efficient investigation and the preservation of individual liberties, the judicial task, it is said, required to examine the implications of permitting the use of the impugned techniques in a variety of

settings.

The issue was brought before a three judge Bench of the Apex court in **Selvi V. State of Karnataka**.¹⁴ In this case the accused has challenge the validity of certain scientific techniques, namely. Narco analysis, polygraphy and brain finger printing (BEAP) tests ‘without consent’ as violative of Article 20(3) as well as Art 21 of the constitution. The state argued that it is desirable that crime should be efficiently investigated particularly sex crime as ordinary methods are not helpful in these cases. So the issue as between ‘efficient investigation’ and ‘preservation of individual liberty’. A three judge bench of supreme court unanimously held that these tests are testimonial compulsions and are prohibited by Article 20(3) of the constitution. These tests do not fall within the scope of expression ‘such other tests’ in expression of section 53 of criminal procedure code, the protection of self-incrimination. The drug is known as sodium pentothal used or introduced general anesthesia in surgical operations. The polygraphy and brain finger printing test is also known as the wave test. Electric waves are introduced into the mind. It was held that compulsory administration of the narco analysis techniques constitutes cruel, inhumane or degrading treatment in the context. Article 21 of the constitution disapproves of involuntary testimony irrespective of the nature and degree of coercion, threats, fraud or inducement used to elicit the evidence. The popular means of the terms such as ‘torture and cruel’ in human or degrading treatment are associated with gory image of blood letting and broken bones. A forcible invasion into a persons’ mental process is also an affront to human dignity and liberty. Often with grave and long lasting consequences. The court also refereed the international conventions though not ratified by parliament, as persuasive value. Since they represent an involving international consensus on the issue convention against torture and other cruel inhumane or degrading treatment or punishment (1984). Referring to the precedents from both Indian and Foreign jurisdiction, Hon’ble Chief Justice K. G. Bala Krishnan speaking on behalf of the Apex Court, drew conclusion, which be briefly stated as follows:-

“That right against self incrimination and personal liberty are non-derogable rights, the enforcement thereof is not suspended even during emergency, that right of the police to investigate offence and examine any person do not and cannot override constitutional protection contained in Article 20(3).”

That protection against self incrimination ensures reliability of statements made by an

¹⁴ AIR 2010, SC 1974

accused and that they are made voluntarily. That the protection available even at the stage of investigation. The court explained that a person administered the narco-analysis technique, is encouraged to speak in a drug induced state and there is no reason when such an act should be treated any differently from verbal answers during an ordinary interrogation of the NARCO – Analysis technique, as such amount to ‘testimonial compulsion’ and thereby triggers the protection of Article 20(3) the court said that it was the function of the legislature to consider and make proper Law on the issue. But if such matter comes before the court, the court shall interpret the mandate of the constitutional provisions available to the citizen and apply in his favour. The court laid down the following guidelines for these tests:-

1. No lie detector test should be administered except on the basis of consent of the accused. An option should be given to the accused whether he wishes to avail such test.
2. If the accused volunteers for a lie detector test, he should be given access to lawyer and physical, emotional and legal implications of such a test should be explained to him by police and his lawyer.
3. The consent should be recorded by the judicial magistrate.
4. During the hearing before the magistrate, the person alleged to have agreed should be duly represented by a lawyer.
5. At the hearing the person in question should also be told in clear terms that the statement if made shall not be a confidential statement to the magistrate but will have the same status as the statement made to the police.
6. The magistrate shall consider all factors relating to the detention including the length of detention and the nature of the interrogation.
7. The actual recording of the lie detector shall be done by an independent agency (such as a hospital) and conducted in the presence of a lawyer.
8. A full medical and factual narration of the manner of the information received must be taken on record.

In India, the application of scientific evidence in criminal investigation and trial has to stand the limitation of Law. The predominant questions therein are: (i) How far such techniques are legitimate and supported by any authority. (ii) How far these forensic techniques are helpful in criminal investigation? (iii) How could we obtain evidentiary importance from the forensic experts?

As per Article 20(3) of the Indian Constitution, ‘no person accused of any offence shall be

compelled to be a witness against himself, this article protect an accused against forcible testimony as witness, this article available only when compulsion is used and not against voluntary statement disclosure or production of document or other material.¹⁵ Sec. 73 of the Indian Evidence Act gives authority to the court of direct any person including an accused to allow his finger impressions to be taken. The Supreme Court has also held that being compelled to give fingerprints does not violated the constitutional safeguards given in Art. 20(3) of Indian Constitution or not? In **state of Bombay V. Kathikalu Oghad & others**.¹⁶ The supreme court held that giving thumb impression, specimen signature, blood, hair, semen etc. by the accused do not amount to 'being a witness' within the meaning of the said article. The accused, therefore, has no right to object to DNA examination for the purpose of investigation and trial. The Bombay High Court in another significant verdict in the case of **Ramchandra Reddy and others V. State of Maharashtra**¹⁷, upheld the legality of the use of P300 or Brain finger printing, lie-detector test and the use of truth serum or narco analysis. The court upheld a special court order allowing SIT to conduct scientific tests on the accused in the fake stamp paper scam including the main accused **Abdul Karim Telgi**. The verdict also maintained that the evidence procured under the effect of truth serum is also admissible in **Dinesh Dalmia V. State**¹⁸, the Madras High Court held that subjecting an accused to narco-analysis does not pass tantamount to testimony by compulsion. However, in a subsequent case, i.e., **Selvi & others V. State of Karnataka**¹⁹ the supreme court held that brain mapping and polygraph tests were inconclusive and thus their compulsory usage in a criminal investigation would be unconstitutional. However, the criminal procedure code 1973 (Amendment Act 2005) sec. 53 provides that upon arrest an accused person may be subjected to a medical examination if there are 'reasonable grounds for believing' that such examination will afford evidence as to the crime, the expanded in 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 techniques including DNA profiling and such other tests which the registered medial practitioner thinks necessary in particular case.

¹⁵ Justice, U.C. Shrivastava, immunity from self-incrimination under Art. 20() of the constitution of India.

¹⁶ State of Bombay V. KathiKalu Oghad &Others AIR 1961 SC 1808.

¹⁷ 2004 All MR (Cri.) 1704

¹⁸ 2006 Cri. L. J. 2401

¹⁹ AIR 2010, SC 1974

IV. CONCLUSION AND SUGGESTIONS

The applicability of scientific evidence is still in uncertainty. In the opinion of the apex court, there is not uniformity about such evidence. Nevertheless, the Supreme Court and some High Courts has accepted scientific evidence in their decisions. In criminal cases specifically base on circumstantial evidence, scientific evidence can play a very crucial role, which may assist in establishing the evidence of crime, identifying the suspect, ascertaining the guilt or innocence of the accused. The National Draft Policy on criminal justice reforms has suggested that Indian Evidence Act needs some amendments to make scientific evidence admissible as ‘substantive evidence’ rather than ‘opinion evidence’ and establish its probative value, depending on the sophistication of the concerned scientific discipline.²⁰

The Malimath Committee also recommended that more well resourced laboratories should be established to handle DNA samples and evidence, as well as particular rule should be enacted giving guidelines to the police setting uniform standards, for attaining genetic information and generating adequate safeguards to prevent misused of the same. Later on Justice Verma committee laid down the need for proper storage and preservation of DNA samples especially in sexual assault cases. Although, as per Art. 20(3) of the Indian Constitution, ‘no person accused of any offence shall be compelled to be a witness against himself. This article available only when compulsion is used, and not against voluntary statement disclosure. However the supreme court has made it clear in **Pushpadevi M. Jatia V. M. L. Wadhawan**²¹ that where ‘Evidence’ offered comes within the meaning of its definition, the court can act on it and need not concern itself with the method of which the evidence in question was obtained.

From the foregoing discussion it is clear that there exist a legislative vacuum in the Law relating to admissibility standards of scientific evidence in India. In the wake of recent developments in science and technology we cannot ignore the evidence of an expert in a criminal trial which is presented before the court involving novel forensic method. The judicial discretion vested upon the trial judges in admitting expert evidence is a major lacuna where the courts are completely kept in dark on matters of science. The courts are finding it difficult to assess the reliability of the techniques that associated with the scientific evidence. It is therefore need of the hour a comprehensive law has to be brought in to regulate the scientific expert evidence and its admissibility in trials.

²⁰ Report the committee on Draft National Policy on criminal justice, Ministry of Home Affairs, Govt. of India, July 2007.

²¹ AIR 1987, SC 1748