

DNA Profiling: Penumbra of Criminal Law

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“Everything has been said already, but as no one listens, we must always begin again”

-Andre Gide

Deoxyribonucleic Acid or popularly abbreviated as DNA is genetic blueprint of a living organism. It contains instructions required for development of cells into body and controls all the characteristics necessary in a fully- functioning living being. When the term was first phrased by Francis Crick in the year 1953 he said that this structure as novel features which are of considerable biological interest³; little did he know that the Helix structure of DNA would prove out to be a breakthrough in the field of forensic science. It did not just revolutionise the research in the field of medical and genetic science but also brought about a change in the way investigations were conducted in civil and criminal proceedings.

One of the substantial features of DNA is that no two human beings can have same DNA structure; except in the case of a mosaic human or twins. In the thirty years, ever since the use of DNA evidence has been introduced in the court of law; it has been well established that a DNA is rare. DNA fingerprinting has quickly advanced from an isolated, manual laboratory technique to a core element within a cluster of technologies, including sampling chemistry, bio-banking, automated handling processes, and DNA databases⁴; thus, making it a conclusive evidence in terms of accuracy. All the cells in the body contain the same DNA whether the samples are taken from skin, hair follicles, blood, other body fluids, etc. thus making it an extraordinarily accurate way to compare a possible suspects DNA samples with the specimen’s found on the crime scene and the victim’s body. The burning or cutting a

³F.H.C Crick, *The Structure of the Hereditary material*, Nature (Oct 1, 1954), <https://www.nature.com/scientificamerican/journal/v191/n4/pdf/scientificamerican1054-54.pdf>.

⁴ *DNA fingerprinting Comes of Age*, Forensic, (Aug 28, 2013) 3:49 am, <https://www.forensicmag.com/article/2013/08/dna-fingerprinting-comes-age>.

finger can change the make of the fingerprint but DNA cannot be changed for an individual no matter what happens to the body.⁵

Even though DNA evidence is accurate as compared to the traditional methods of collecting, processing and comparing evidence on the crime scene; their probative value in the Indian courts is still in question. DNA as an evidence has been accepted and adopted by the criminal law of various Nation States which also have specific legislations for the proper collation, preservation, documentation of the DNA evidence. The admissibility of DNA evidence depends inordinately on the correct collection, preservation and documentation of the DNA evidence, however; in the absence of a proper code; the admissibility still remains in question. The Indian courts have refused to give preference to medical evidence over ocular evidence. The introduction of the DNA technology is seen as a threat to the fundamental rights enshrined in the constitution under Article 20(3) and Article 21. The guiding principal is that a person cannot be forced to give his or her sample for DNA analysis which would probably lead to his or her conviction as enshrined in Article 20(3) of our constitution which provides for the right against self-incrimination which means that no person accused of any offence shall be compelled to be a witness against himself or herself. Also, it is against the right to Privacy which has been held to be a fundamental right under Article 21 of the constitution in *Justice K.S Puttaswamy v. Union of India*.⁶ Our criminal justice system provides safeguards of fair trial and innocent till proven guilty to an accused and also contemplates that justice is done to everyone, to the accused, to the society, and to the prosecution. The courts don't merely discharge the function to ensure that no innocent man is punished, but also that a guilty man doesn't escape.⁷ However, our law fails to recognise the fact that the same DNA sample can be used to exonerate a person wrongfully accused.

⁵ Mukesh v State (NCT of Delhi), (2017) 6 S.C.C 1.(India).

⁶ 2017 SCC Online SC 996.

⁷Dayal Singh v. State of Uttaranchal, (2012) 8 SCC 263 (India).

Credibility Of DNA Evidence Under Indian Evidence Act

DNA molecule though is a complex structure but it has the potential to administer justice in an easy and efficient manner. DNA proofing is one of the most significant inventions in the medical sciences which turned out to be an asset for the forensic sciences too. Precise, accurate, undeniable results of the medical examination of DNAs have proved to become sensation in the criminal investigation.

Section 45 of the Indian Evidence Act, 1872 lays down that for forming an opinion in the matters pertaining to foreign law, science, art etc the opinion of the persons expert in their respective field is relied upon as *Opinion Evidence*; which is an exception to the general rule that no third party's opinion is admissible as an evidence in the court. The analysis of the medical evidences by the medical experts are totally reliable if collected by the investigators in compliance with the rules, and the observations and the opinion of the experts shall definitely be unquestionable and undeniable since they are based on all the scientific formulations.

The opinion of the experts is relevant in the courts as per Section 45 of the Indian Evidence Act and such opinion is totally relied upon and is of utmost importance in the case of absence of any ocular evidence and also in the cases where the court has to decide on any matter with circumstantial evidences only. But in the matters where there are both ocular witnesses and the opinion of a medical expert is also taken then there arises two possibilities:

- i. In the matters where the ocular evidence and the opinion of medical expert are in corroboration, the ocular evidence becomes the primary evidence and the medical report becomes the supplementary evidence.
- ii. In the matters where there is some inconsistency in the expert opinion and the narrations of the eye witness, the statement of ocular evidence is relied upon and this is a settled law.

The court in the case of *Darbara Singh v. State of Punjab*⁸ held that unless the contradiction in the ocular evidence and medical expert is so grave that the opinions are totally irreconcilable the ocular evidence will not be liable to disbelieve, and the ocular evidence will be given primacy. This is a major flaw in the evidence law. The evidentiary value of medical expert based on all the scientific vigour is given lesser preference over the eye witness even though the probability of an eye witness misleading the court is more. It is humbly submitted that it is erroneous to accord primacy to the eye witness rather than giving preference to the medical expert's opinion. The medical reports shall definitely be without question more credible than the ocular evidences.

In case the ocular evidence and medical evidences are in consonance, the medical tests are given the status of supplemental evidences even though their results infallible. In the case of *Pantangi Balarama Venkata Ganesh v. State of Andhra Pradesh*⁹ it was decided that the medical evidence (in this case the DNA Report) has to be considered with other evidences, there is no need to rely completely on the medical evidence. In the case of *Krishnan v. State*¹⁰ the court considered the witnesses as the eyes and the ears of justice. Thus, in case there is discrepancy between ocular evidence and the opinion of a medical expert, more credibility is given to the eye witnesses even though the medical reports like DNA tests are invincible. Thus, on the perusal of this law settled by the court, it is felt that DNA technology should not be given status of a guidance factor rather it should be considered an absolute evidence for accruing information.

Medical Examination Of The Rape Victim And The Accused

With the amendment in Code of Criminal Procedure in the year 2005, Section 53-A and Section 164-A has been inserted which explicitly allows and makes collection of

⁸ (2012) 10 SCC 476.

⁹ (2009) 14 SCC 607.

¹⁰ (2003) 7 SCC 56.

blood, blood stains, semen, swabs in case of sexual offences, sputum and sweat, hair samples and finger nail clippings of the accused for the purpose of DNA profiling mandatory ¹¹ from the accused and the victim respectively. The investigating officer can collect the samples from the victim and the accused with the help of the medical practitioner. This was seen as a step to catch up with the technological changes and taking up benefit of the advantages provided by the modern medical sciences. In *Krishna Kumar Malik v. State of Haryana*¹² the Supreme Court in a rape case observed, —Now, after the incorporation of Section 53 (A) in the Criminal Procedure Code, with effect from 23.06.2006, brought to our notice by learned counsel for the Respondent-State, it has become necessary for the prosecution to go in for DNA test in such type of cases, facilitating the prosecution to prove its case against the accused. Prior to 2006, even without the aforesaid specific provision in the Cr.P.C. prosecution could have still resorted to this procedure of getting the DNA test or analysis and matching of semen of the Appellant with that found on the undergarments of the prosecutrix to make it a fool proof case. However, in the absence of proper procedure regulating the collection, preservation and destruction of the DNA; the admissibility of these evidences is still questioned at times.

Redfining The Paradigm Of Illegitimacy And Paternity: How Conclusive Is Dna?

Section 112 of the Indian Evidence Act, 1872 conclusively provides that a child born during the continuation of a valid marriage between 'his' (her) mother and any man OR within the period of **280** days after its dissolution; shall be the legitimate son(daughter) of that man. Only way to prove otherwise is to show that the parties had 'no access' to each other during that period. Presumption of legitimacy is highly favoured by law and thus; the court requires that the proof of such 'non access' should be clear and conclusive without even a slightest scope for ambiguity and the

¹¹ Code of Criminal Procedure (1908), E, 1973 ACT NO. 2 OF 1974.

¹² (2011) 7 SCC 130.

same was held in the case of *Venkateswarlu v. Chilukuri Venkatanarayana*.¹³ The burden of proof; contrary to what happens in other cases, depends upon the person who asserts the negative. The courts refuse to recognize indisputable admissibility of DNA test in this case and to determine the biological relationship between the parties involved. The result of DNA even said to be scientifically accurate still isn't said to be at par to rebut the conclusiveness of the provision. This act was enacted in circumstances when polygamy was in existence and the chastity of the woman and the legitimacy of the child had to be protected however; with the changing circumstances there is a need to bring in gender neutral laws and laws which treat everyone equally irrespective of gender. If the husband has reasonable ground to doubt the legitimacy of child; he should be given a fair opportunity to know about the same as he would be compelled to bear the fatherhood of a child of which he may be innocent and the modern medical sciences provides accurate ways to prove the same.

The main objective behind refusing the admissibility of DNA evidence is that the court does not want the child to be bastardised. The other view is that the court must be reluctant in use of such scientific advances and tools which result in invasion of right to privacy of an individual and may not only be prejudicial to the rights of the parties but may have devastating effect on the child.¹⁴ However, the court can confer the responsibility of the child on the real parent. When the technology gives a fair chance to determine the biological relationship between the parties involved. Although the court must not give the order for a DNA test in every case; the conclusiveness of the aforementioned provision poses a serious challenge. The court should pass necessary orders in a manner that it doesn't intrude the privacy of a person and also doesn't hamper the proceedings. In *Narayan Dutt*

¹³ AIR 1954 SC 176.

¹⁴Bhabani Prasad Jena v. Convenor Secretary, Orissa State Commission for Women & Anr. AIR 2010 SC 2851.

*Tiwari v. Rohit Shekhar & another*¹⁵, the Supreme Court ordered the DNA samples to be taken at the putative father's residence so as to maintain confidentiality. It said that a distinction has to be drawn between 'legitimacy' and 'paternity' and the safeguard provided in Section 112 of the Indian Evidence Act is to protect the interest of the child by protecting his or her legitimacy and not his or her paternity. The court said; "the right of a child to know his biological roots can be enforced through reliable scientific tests and if the interest of the child is sub served by establishing the paternity of someone who is not the husband of his mother, the court should not shut that consideration altogether; Indian law casts an obligation upon a biological father to maintain his child and does not disregard rights of an illegitimate child to maintenance."

The truth is the guiding star and the quest in the judicial process and voyage of the trial. Adverse inference from non- compliance cannot be a substitute to the enforceability of a direction for DNA testing. The valuable right of a party to prove his paternity through DNA test cannot be taken away by asking the party to be satisfied with the comparatively weak "adverse inference."¹⁶

DNA Evidence: No Personal Testimony

Amongst the fundamental rights that have been guaranteed by the Indian Constitution to the citizens, Clause (3) of Article 20¹⁷ espouses the right of persons accused of an offence. Article 20(3) lays down that "No person accused of any offence shall be compelled to be a witness against himself." This article is based on the maxim "*nemo tenetur prodre accusare seipsum*", which essentially means "no person is bound to accuse himself."¹⁸ It gives protection to the people accused of an

¹⁵ (2012) 12 SCC 554.

¹⁶ Maria Margadia Sequeria v. Erasmo Jack De Sequeria (2012) 5 SCC 370.

¹⁷ INDIA CONST. art. 20.

¹⁸*Rights of an accused: A study under Indian Constitution*, March 11, 2017,

<https://www.jusdicere.co.in/rights-of-an-accused-a-study-under-the-indian-constitution/>.

offence, to be a witness against themselves so that the police authorities or any other authority cannot forcibly make them speak against themselves.

There have been debates on the matter that DNA evidence against a person is violation of his or her right against self incrimination. In the case of *State of Bombay v. Kathi Kalu Oghad & Ors*¹⁹, the court decided that self-incrimination must mean conveying information based upon the 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 controversy, the giving of finger impressions or of specimen writing or of signatures by an accused person, though it may amount to furnishing evidence in the larger sense, is not included within the expression 'to be a witness'. Thus, in no way it is a personal testimony.

In the case of *Selvi v. State of Karnataka*²⁰, it was highlighted that the DNA profiling was expressly included in the explanation to Section 53, 53 A and 54 of the Cr.P.C as per the 2005 amendment. In the judgment itself the difference between DNA profile and DNA sample was specified. A DNA profile is the record of DNA samples. It was also stated that taking and withholding of DNA samples don't abrogate constitutional rights of the accused, unless the technique of DNA Profiling is further used for testimonial purposes.

Article 20 (3) shall actually be interpreted to the extent that the accused should not get the protection when the court or the investigator directs him to give DNA sample for the purpose of investigation, and if the accused refuses to give consent, then an adverse inference shall be drawn. Ultimately, the sole objective is to impart justice but broadening the extent of Section 20(3) so much would actually defeat the purpose of criminal justice system. The law cannot be insensitive to the rights of victim. Article 20(3) doesn't apply to a confession made by an accused without any inducement, threat, or promise.²¹

¹⁹ AIR 1961 SC 1808.

²⁰ (2010) 7 SCC 263.

²¹ , Ramanlal Bhogilal Shah v. D.K. Guha AIR 1973 SC 1196.

DNA Profiling: Whether Perilous Intervention In Privacy?

Right to privacy has always been in debate. The courts had been giving disparate judgments whenever the question of right to privacy being a fundamental right came up. Right to privacy is envisaged within the fold of two fundamental rights: Article 19 and Article 21.

Article 19(1) stipulates that “All citizens shall have the right to freedom of speech and expression” and can only be curtailed in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence”²² With the groundbreaking judgment of the Supreme Court in *K.S Puttaswamy v. Union of India*²³; the Right to Privacy is no longer a “penumbral right” and has been held to be a part of the Article 21 enshrined in the constitution. Article 21 reads as-

“No person shall be deprived of his life or personal liberty except according to procedure established by law.”

In simpler terms Right to life and personal liberty can be said to include a person’s liberty to exercise all the rights available to him or her without any interference and hindrance. Collection of DNA samples has always been seen as a threat to privacy of a person. Given the nature and the amount of personal information contained in cellular samples, their retention per se must be regarded as interfering with the right to respect for the private lives of the individuals concerned. That only a limited part of this information is actually extracted or used by the authorities through DNA profiling and that no immediate detriment is caused in a particular case does not change this conclusion... the DNA profiles' capacity to provide a means of identifying genetic relationships between individuals... is in itself sufficient to conclude that their retention interferes with the right to the private life of the

²² INDIA CONST. art. 19, cl. 2.

²³ 2017 SCC Online SC 996.

individuals concerned... The possibility the DNA profiles create for inferences to be drawn as to ethnic origin makes their retention all the more sensitive and susceptible of affecting the right to private life.²⁴

Now that the Right to Privacy is a fundamental right; the DNA profiling bill 2017 cannot be passed without pondering upon the repercussions and the steps to be taken to maintain the sanctity of a person's privacy. No doubt that the DNA results are unfailing but what ensures that ensures the infallibility of the human actions. Technology cannot be a substitute for human fallibility, however this does not refute the fact that if there is no human error or malice while collecting and analysing the DNA samples; the results are highly accurate.

Another moot point is that a person may always refuse to provide DNA sample in the garb of protection of his or her right to privacy. In *Sharda v. Dharampal*²⁵, the Supreme Court observed that if everyone started using Art. 21 as a shield to protect themselves from going through the DNA test then it will be impossible to arrive at a decision. The court needs to make a distinction between public rights and private rights and whether collection of DNA would result in a greater public good.

Regulation of DNA Profiling

The DNA test though accurate is not admissible in the courts and is not relied upon till the time the court is not satisfied that the DNA was collected, preserved and documented properly. There is thus a stringent need of a legislation pertaining to the same, DNA samples shall be handled by the investigators, forensic labs strictly according to the guidelines, and such guidelines shall come through a legislative action. In the 271st Report of the Law Commission, a bill has been drafted for regulation and handling the DNA samples. The advantages so provided by this tremendous technology can only be used to good advantage if a specific legislation pertaining to same is enacted. DNA technology on one hand facilitated the criminal investigation but on the other hand there are a lot of challenges which can only be dealt well with the help of proper legal provisions. The Department of Biotechnology had referred a

²⁴ *Ibid.*

²⁵ AIR 2003 SC 3450.

bill framed on the methods of handling DNA samples, to the Law Commission for scrutiny and the Law commission came up with the exhaustive details on DNA profiling along with a new bill. The DNA-Based Technology (Use and Regulation) Bill, 2017 while keeping right to privacy laid down the procedures of how, the DNA Samples can be handled.²⁶ There are certain salient features of the act:

- i. Laid down the need for DNA banks at national and regional level which will collect, preserve and create a profile of the DNA sample. (procedure for destruction of the DNA sample, no mention of retention period)
- ii. The bill also lays down emphasis on the need of DNA profiling Board, an accreditation authority which will authorise certain DNA labs in India along with that it will undertake the supervising power.
- iii. The bill lays down punishments and penalties in case of misuse of the DNA samples by the authorities. Importance has been given to confidentiality of the personal information.
- iv. The bill also specifies that there is a need of uniform guidelines to be followed in all the forensic laboratories to assure that the quality is not compensated.

Section 21 of the bill proposes that no bodily substances shall be taken from a person who has been arrested as an accused of a crime, unless the consent is given by such accused. If there are reasonable grounds that the person accused of some crime is the actual culprit then the samples should be collected immaterial of his or her consent. The same was supported in the case of *Selvi v. State of Karnataka*²⁷ where the court held that an individual who is known to be connected to a fairly high degree with the crime under investigation is not giving consent for the collection of DNA samples, his consent shall not be considered as the basic objective is to find the perpetrators of the crime.

Recommendations

“The law must be stable, but it must not stand still.”

-Roscoe Pound

²⁶ Law Commission of India, Report 271

²⁷ See *supra*, 18

Article 51-A (h) inserted by the 42nd amendment in the Indian Constitution reads as- citizens shall have a duty 'to develop the scientific temper, humanism and the spirit of inquiry and reform'²⁸. The citizens are under a fundamental duty to develop scientific vigour and temper. In India, where our society is based on morals, values, age old traditions and superstitions; this article lays down that the citizens shall step towards modernization and popularization of the scientific temper. DNA profiling is one such *scientific* step that is taken by the crime branch for ensuring upliftment of the criminal administration which will not become successful unless there will be support from the population.²⁹

There is an imminent need to amend Section 45 of the Indian Evidence, 1872 with respect to the admissibility of the deposition of medical expert as primitive evidence and not merely a corroborative one. Section 112 is outdated which leaves no room for inclusion of scientific evidence whose accuracy is infallible. The conservative nature of the section needs to be amended so that justice can be imparted to both the putative father as well as the child whose

Section 53-A and 164-A makes collection of DNA samples mandatory in case of sexual offences. However, in absence of a uniformly laid down scientific procedure there is still room for ambiguity which creates confusion for subordinate judiciary. Thus, there is stringent need of a specific legislation to deal with use and regulation of DNA based technology.

Certain efforts had been made in the past for the same. Malimath Committee Report (2001) recommended:

- i. From the very primitive stage of the investigation, forensic science and modern technology must be used and for this a cadre of investigators must be created for collection and preservation.

²⁸ INDIA CONST. art. 51 A, cl. (h).

²⁹ M. J. Varkey, *Science popularization and the Indian Constitution*, CURRENT SCIENCE, VOL. 78, NO. 9, 10 MAY 2000, at 1054

- ii. There shall be a network of the Central Forensic Science Laboratories and Regional Forensic Science Laboratories with adequate training facilities which shall abide by uniform guidelines for collection, preservation and documentation.³⁰

However, no due consideration was given to right to privacy.

In the A.P Shah Committee report (2012), consideration was given to Right to privacy of the accused. One of the major problems with this particular report was that it suggested sharing of DNA profiles with the foreign government in certain cases of terrorism and missing persons. They suggested that there shall be a retention period of the DNA samples so collected, however they failed in providing with the exhaustive list of all the

The Law Commission in the new bill giving due consideration to the ethical and privacy issues framed the bill titled “The DNA-Based Technology (Use and Regulation) Bill, 2017” which recommended the establishment of a supervisory body in the form of DNA Profiling Boards to lay down the procedure of collection, preservation and documentation along with the power to certify the forensic labs, establishment of national and regional DNA banks along with ensuring security of the national DNA Profile database. However the bill lagged in putting forth the point of destroying the DNA sample after some specific period of time, there is no section specifying the retention period of the DNA samples.

Self incrimination and Right to privacy still lies in penumbra with respect to admissibility of DNA. The action should come from the legislature and mere court action is not sufficient. There should be an amendment in the Article 20(3) and Article 21 which specifically mentions that conducting DNA test of the accused is no abrogation of his right against self incrimination and privacy; rather it will cater the court in reaching at the truth easily and it is a mechanical process of obtaining evidence that too without forcing the accused to give a witness against himself. The difference between ‘forcibly making an accused to give an evidence against himself

³⁰ PUCL, *Recommendations of the Malimath Committee on reforms of Criminal Justice System*, May 2003, <http://www.pucl.org/Topics/Law/2003/malimath-recommendations.htm>

for the crime he has committed or not' and 'collecting his DNA sample to obtain the truth' should be established.

A change has been seen in the pattern followed by the courts with regards to admissibility of DNA in the recent years. (See table 1)

Table: 1 showing decisions in 2011 given by various courts where DNA evidences were admitted.³¹

S. NO	NAME OF THE COURT	FREQUENCY	PERCENT
1.	Delhi	11	23.4
2.	Bombay	8	17
3.	Kolkata	3	6.4
4.	Madras	6	12.8
5.	Andhra Pradesh	4	8.5
6.	Jabalpur	1	2.1
7.	Guwahati	3	6.4
8.	Supreme Court	2	4.3
9.	Chhattisgarh	1	2.1
10.	Punjab & Haryana	4	8.5
11.	Uttar Pradesh	1	2.1
12.	Uttarakhand	1	2.1
13.	Kerala	1	2.1
14.	Himachal Pradesh	1	2.1
Total:		47	100

The objective of the criminal administration is to impart justice. With the changing times; the law needs to change too. This can be done only when traditional value-based judicial system readily accepts the changes brought in the modern forensic

³¹ Dr. Nirpat Patel, Vidhwansh K. Gautaman & Shyam Sundar Jangir, *The role of DNA in Criminal Investigation- Admissibility in Indian legal system and future perspectives*, 2 Issue 7 IJHSSI, 15, at 18 (2013).

sciences. It is the duty of the State to protect the fundamental rights of the citizens and the duty of the court to search the truth. Thus, penumbra of criminal law relating to admissibility of DNA evidence should be removed and India should come up with legislation which brings in balance between the right of accused and the victims.