

# The Concept of DNA in India

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**ABSTRACT:** *DNA profiling is a process by which it is possible to classify an entity at the molecular level. In recent years, the use of DNA evidence in criminal investigations has increased. Law-enforcement DNA testing has helped classify offenders and solve complex cases such as robbery, homicide and murder with rape, etc. Where the parent is not available, the ability of DNA typing has allowed the resolution of immigration problems and difficult paternity tests. It was also possible to easily classify people in mass incidents (man-made, such as explosions) using DNA typing. In some countries, computerized DNA databases for the detection of criminal offenders have been developed. This paper discusses the science of DNA detection and its application, including jury prosecutions, appeals and post-conviction processes, during criminal investigations and in criminal proceedings. The key advantages and costs of the growing role of DNA detection in the criminal justice system are identified, with particular focus on India. We hope to address the problems of DNA technology in the future.*

**KEYWORDS:** *Application; DNA; India; Process.*

## INTRODUCTION

The scientists Francis H. C. Crick and James D. Watson first identified DNA (Deoxyribonucleic acid), also considered the building stone or genetic blueprint of life, in 1953. The double-helix structure of DNA, which resembles a twisted ladder, was described by Crick and Watson and the function of DNA as the material that makes up living organisms' genetic code was created. The formation of that life-form is determined by the pattern of the compounds constituting the DNA of an individual life-form. If it is a skin cell, a sperm cell, or a blood cell, DNA is the same in any cell in the body of an organism. No two people have the same DNA, with the exception of identical twins[1].

Using highly advanced analytical instruments in DNA analysis for a forensic case, a DNA molecule from the perpetrator is first disassembled and chosen fragments are separated and weighed. Then the DNA profile of the perpetrator is matched with one produced from a forensic evidence study to see if the two fit. The defendant could be disqualified from consideration if a definitive non-match happens. A mathematical analysis is carried out where a correlation happens to assess the likelihood that the forensic evidence sample originated from another individual with the same DNA profile as the suspect's. In deciding whether a defendant is guilty or innocent, juries use this mathematical outcome[1].

The strong and contentious study of deoxyribonucleic acid, or DNA, the substance that makes up the genetic code of most organisms, is among the many modern methods that research has provided for studying forensic data. DNA research, also referred to as DNA typing or DNA profiling, analyses DNA detected in physical evidence such as blood, hair, and semen, and decides whether it can be compared with specific individuals' DNA. In criminal courts, DNA analysis has become a standard form of testimony. It is also used in civil lawsuits, particularly in cases concerning identity paternity determination[2].

The DNA test is perfectly identifiable and admissible. The admissibility of the DNA evidence before the court still relies on its detailed and consistent compilation, storage and recording that will reassure the court that it is accurate for the evidence that has been placed before it. There is no relevant law in India that will offer specific instructions to the investigating agencies and the court, as well as the protocol to be followed as evidence in cases involving DNA[2].

In comparison, there is no statutory provision for handling scientific, technology and forensic science problems under the Indian Evidence Act, 1872, and the Code of Criminal Procedure, 1973. An investigation officer needs to face a lot of difficulties in gathering evidence that requires new mechanisms to prove the convicted person responsible because of the absence of any such clause[2].

For the purposes of prosecution, Section 53 of the Code of Criminal Practice 1973 requires a police officer to seek the help of a medical practitioner in good conscience. But, with the felony proceedings against the defendant, it would not authorize a plaintiff to gather blood, sperm, etc.[3].

The Cr.P.C. amendment Cr.P.C. by the Two additional sections were added by the (Amendment) Act, 2005, allowing the investigation officer to extract DNA samples from the body of the perpetrator and the victim with the aid of a medical practitioner[3].

These sections authorize the examination by the medical practitioner of the person convicted of rape and the medical examination of the rape survivor, respectively. The admissibility of such facts, however, remained in a state of doubt as the opinion of the Supreme Court and the various High Courts remained contradictory in the various decisions. Judges do not dispute the scientific precision and conclusiveness of DNA testing, but in certain cases, on the grounds of legal or statutory prohibition and often public policy, they do not consider such facts[3].

## DISCUSSION

As there is no rule in the Indian Evidence Act, 1872 and Code of Criminal Practice, 1973 to manage science and technology problems, there is an immediate need to re-examine these parts and rules. Since the incorporation of the DNA test in the legal system, many developing countries have been pressured to change their laws[4].

There are some clauses in the Indian Evidence Act, 1872, such as Section 112, which specifies the parentage of the child and states that a child born within 280 days of the dissolution of the marriage in a legitimate marriage between a woman and a man and the mother remaining unmarried indicates that the child belongs to the father, unless otherwise proven, but again no clear clause that belongs to the man[4].

In the case of civil cases, DNA analysis is of crucial importance in deciding the paternity of a child. In felony trials, civil cases, and maintenance prosecutions in criminal courts under Section 125 of the Cr.P.C., the need for this information is most relevant[4].

Therefore, DNA testing has come to be accepted in our justice system as proof of identification. One of the DNA discoverers who was awarded the 1962 Nobel Prize for medicine for the same, James D Watson, made the following remarks on handling DNA data, keeping track of molecular evidence may be an especially taxing task, as opposed to knives and guns; scraping from a side walk can be visually indistinguishable from scraping from a gatepost and eventually extracting from a gatepost[5].

Therefore, while DNA is an accurate science, its use of evidence has its problems, which exacerbate in the Indian scenario where evidence collection is shrouded with a lack of promptness and medical test success still remains under a question mark. It is said that the law walks a decent distance behind science, but the courts are struggling to catch up with it. It is my contention that the court must be vigilant when taking advantage of such evidence in order to guarantee justice for all parties. Observations on the civil side have been rendered by the Supreme Court, directing courts to be highly vigilant when ordering DNA checks[6].

Genetic evidence, either as a defence appeal or on the findings of the courts, has never appeared before the courts in India to date. The findings of DNA fingerprinting, which primarily applies to the detection of whether an individual was present at the scene of the crime or in matters relating to paternity disputes, are the only scientific evidence allowed in court[7].

Despite their appeal, the courts, for many reasons, are not too excited about accepting such evidence. First of all, the technique has not yet been established in India, with only institutions such as the DNA Fingerprinting and Diagnostics Centre providing sufficient facilities for the studies to be carried out[8].

Secondly, sample processing requires expertise and the ability to eliminate sample contamination. Given the lack of experience and competence in this field, the courts are often unsure about the quality and reliability of such assessments. The lack of a robust database that leads to a lack of accuracy and a large backlog of cases in laboratories is another significant barrier to the widespread use of DNA testing[9].

Section 45 of the Indian Evidence Act, 1872 specifies that, on the basis of relevant facts pertaining to international law, science or art, or to the identification of handwriting or finger impressions, the Court can rely on expert opinion. While this section requires the court to consider facts related to genetic defects

that contribute to the creation of criminal activity, either the defence or the prosecution have never discussed this field[10].

## CONCLUSION & IMPLICATION

With the advancement of science and technology, the controversy about the admissibility of DNA data is expected to continue. In both statute and precedent, the rule has grown in countries like the USA. However, what the future holds for countries such as India, who are seeking to establish a central DNA database for criminal investigation purposes by legislation, will continue to be seen. Prima facie, if one were to examine Selvi, which strongly disapproves of forcefully extracting samples, the prospect of such ambitious proposals would seem to be grim.

It would also be prudent for the legislature and the judiciary to appeal to some elements of the admissibility of such facts, so that the advantages of such technologies can be used for the better good of society as a whole.

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