VOLUME 3 | ISSUE 3

INTERNATIONAL JOURNAL OF ADVANCED LEGAL RESEARCH

# DNA FINGERPRINTING AND FORENSIC EVIDENCE IN INDIA

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## INTRODUCTION

The connection between legal norms and technological advancements The advancement of technology has been the driving force behind human progress; at the same time, it has been a primary focus of the legal system's efforts to control society. If you can say that technology has been a driver of societal change, then you can also say that the law has had trouble keeping up. However, technology has also made it possible for significant shifts to occur in the application, accessibility, and enforcement of laws. Therefore, even if advances in technology have caused society to evolve in ways no one could have predicted, same advancements have also made it possible for the legal system and its representatives to improve how justice is carried out. Also, science has progressed beyond the explanation of natural occurrences such as storms, diseases, or astronomical changes and medicine to improve the quality of life to things that are not related to health, such as the new forensic science which seeks to solve crimes utilizing the same principles of cause and effect.

Every piece of tangible evidence may have an impact on the outcome of the case. Whenever a crime is committed, there are some pieces of evidence present at the scene that cannot be seen by the human eye. Forensic investigators are responsible for gathering these pieces of evidence. These pieces of evidence might be found in the form of biological fluids such as blood, physical markings such as fingerprints or drag marks, hair, or other physical items such as weapons, bullets, and so on.

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"Wherever he steps, whatever he touches, whatever he leaves, even unconsciously, will serve as silent evidence against him. Not only his fingerprints or his footprints, but his hair, the fibres from his clothes, the glass he breaks, the tool marks he leaves, the paint he scratches, the blood or semen that he deposits or collects – all these and more bear mute witness against him. This is evidence that does not forget. It is not confused by the factual evidence. Physical evidence cannot be wrong; it cannot perjure itself; it cannot be wholly absent. Only its interpretation can err. Only human failure to find it, study and understand it can diminish its value." – Paul L. Kirk, Ph.D.

When a criminal act is done, the location of the crime contains a lot of information that reveals the nature of the offence as well as the names or, in some instances, the relationship of the persons involved, including the person guilty and the victims. The presence of an eyewitness who is also willing to testify is not always possible, so other types of evidence, such as blood, saliva, skin cells, hair, fingerprints, footprints, tyre prints, clothing fibres, images, audio data, handwriting, and the residues left behind by fires and gunshots, among other things, have gained significance in recent years. This is because it is not always possible for an eyewitness to be present who is also willing to testify. This helpful evidence cannot be gathered without the use of appropriate methods and aids; as a result, it is necessary to have a thorough knowledge of the nature of evidence and the methods that may be used to obtain it. The vast majority of really dangerous offenders are never brought to justice because there is insufficient evidence against them. In addition, the prosecution blows through a significant amount of money on the legal proceedings surrounding criminal cases. As a consequence of this, the majority of public funds are frittered away during traditional investigations, and offenders are exonerated on the grounds of benefit of doubt. The field of forensic science enters the picture here. With the assistance of forensic science, a scientific examination of criminal activity and the administration of justice may quickly and easily establish the criminal charge that should be brought against an accused person with a high degree of precision. The use of scientific methods to investigate crimes with the assistance of forensic science is recognized and practised in every region of the globe, and it is possible to conduct fruitful criminal investigations with the assistance of forensic science. Our

Court has made it abundantly obvious that the law requires trial judges to become evidentiary gatekeepers with regard to scientific evidence. This role is imposed on trial judges.[2]

**FORENSIC SCIENCE**

The word "forensic" which comes from the Latin word for "public," originated in the ancient Forums, which served as the public meeting place for the Roman Senate when it convened on specific dates for the purpose of discussion and debate on matters pertaining to public affairs. Therefore, the meaning of the word "forensic" is "pertaining to issues of public or legal significance." The application of scientific principles to problems pertaining to law is known as forensic science. The conventional strategy of relying on eyewitnesses is not always effective in criminal investigations since it tends to reduce the quality of the system of criminal justice and make the task of the judge rather difficult when deciding a criminal case or corroborating the fact in question only on the basis of evidence of witnesses who could lie or are not trustworthy. There is a possibility that the witness may become hostile, or they may choose not to attend in court, which would further delay the case. In addition, the judges may not be able to arrive at a conclusive conclusion about the occurrence in issue even after examining the witness testimony both in and in conjunction with the other evidence. It is not possible to rely on all of the witness evidence due to the possibility that the witnesses may refuse to respond honestly and appear in front of the court because they are afraid of being threatened by criminals or other individuals. In cases involving sexual offences or other horrible crimes in which the victim is dead, it is sometimes hard to obtain witnesses; in these situations, forensic evidence and science shine and offer the narrative as to what had transpired in the cases. Ample opportunity for accused individuals to be found not guilty owing to a lack of evidence or to be found guilty of a lesser offence.

In addition, the prosecution invests a significant amount of resources on the legal proceedings in criminal cases. As a result, the majority of the time and money spent on traditional investigations is lost, and offenders are often acquitted on the basis of the benefit of doubt. Blackstone is a great example of a lawyer who can both reflect on the scientific basis of the law and situate such

[2] 10. Gen. Elec. Co. V. Joiner, 522 U.S. 136 (1997); Daubert V. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993).

thoughts in the context of the history of ideas that were prevalent during his time period. He is known as "the father of modern legal positivism." Blackstone "intended to convey proof that the lawyer's work is in the main stream of the history of thinking, whether or not the lawyer is aware of it."... This book makes an effort to explain to all of its readers how a student of society might use the purportedly objective processes of reason to support whatever social principles he chooses to believe in. It is possible for the judicial members to have solely legal training, purely scientific training, or comprise at least one person from each of the fields of law and science.

Laboratory techniques for analyzing and interpreting physical evidence obtained at crime scenes are the primary focus of the academic and professional literature that makes up forensic science and criminalistics. After all, the knowledge that can be extracted from the physical evidence is what motivates the process of collecting and examining the physical evidence. The use of scientific laboratory procedures has the ability to produce details from the physical traces that were left at the scene of crime. This information may help determine what occurred at the site, as well as who was involved (and who was not involved). Due to the fact that it may provide information about a crime that would otherwise be inaccessible to investigators and fact-finders, forensic evidence and testimony have become an increasingly important part of the legal system during the last one hundred years. This trend is expected to continue. On the basis of the scientific assessment of physical evidence gathered from crime scenes, victims, and suspects, forensic science and criminalistics labs will often offer the following sorts of information to the appropriate authorities:

Crimes are being perpetrated in a manner with techniques kept in mind, and even technical crimes have evolved that can only be examined via the use of forensic technology. Additionally, the conventional or old method of classifying crimes has been replaced with a more technological one. Because today's criminals are so skilled with technology, our conceptions of what it means to be a criminal have also evolved. When traditional crimes are also perpetrated in a scientific manner using computers, there is no other choice than to adopt cyber forensics as the investigative method of choice. Investigators are unable to depend on the age-old skill of questioning, the cultivation of sources, and surveillance in order to discover crime, while intelligent criminals have begun to harness science for their illegal deeds. Because

of this, the system of criminal justice cannot function properly without the assistance of forensic science or modern technology. The advancement of forensic science has resulted in the creation of a powerful instrument that may be used by the judicial system as well as law enforcement authorities.

In the same way that society is skeptical of science, the judicial system is skeptical of it as well, despite its efforts to apply scientific knowledge in the investigation of crimes, accidents, and disasters of all kinds. Today, scientific evidence may be found in a far wider variety of places than it was in the past. Because of this, it is imperative that investigative and legal procedures make use of the most up-to-date scientific methods. There are several subfields that fall under the umbrella of forensic sciences. Some of these subfields include ballistics, digital forensics, forensic DNA analysis, forensic anthropology, toxicology, pharmacology, questioned documents, speaker identification, and voice analysis. All of these subcategories are used in the investigation of various types of crimes. These methods are also applicable in circumstances in which more traditional types of criminal activity have taken on enormous proportions, such as in the form of public uproar, or in order to compensate for deficiencies in the investigative procedures.

Both Indian law and Indian science have been heavily influenced by the laws of other countries, particularly the common law of England and the law of the United States. Since the advent of forensic science technologies, there have been remarkable achievements in the decision-making process of criminal proceedings; nonetheless, there is an urgent need for comprehending the evidence generated and the method behind it, since this has become a more challenging job as scientific methods have developed and their application in Indian law has gotten more complex. The value of scientific and technological evidence can be broken down into several categories: it can provide a brief insight into the circumstances of the case, which can then assist in the collection of materials from the remains of the crime scene; it can also point the finger at the guilty party while letting the innocent person go free; and it can set the guilty party free while letting the innocent person go free However, the Indian Evidence Act only addresses the admissibility of expert witness testimony, not forensic evidence, therefore we are often forced to rely on the decisions and judgements of the higher courts to determine whether or not forensic

evidence will be allowed in court. The question of what percentage of convictions and acquittals are recorded in criminal cases in which forensic evidence was used and what the ratio behind it is remains unanswered at this time, despite the factthat there is currently a great deal of commotion surrounding the creation and acceptance of forensic evidence and the use of it. This will most certainly help to speed up investigations and the criminal justice system. Despite this, the question that must be answered is: what is the ratio behind it? This is best characterized by the judicial approach to the, and how the lack of quality and protection safeguards has produced a difficulty in providing the scientific evidence with the splendor it deserves, is the most suitable way to put this. The application and interpretation of the law is the responsibility of the courts, which also allow for the creation and introduction of new methods, as well as the admissibility, to join the arena at the same time owing to the absence of procedural and legislative procedures, which offers space for a great deal of discretion. According to the terms of the law, not all of the methodologies qualify as scientific; hence, it is essential to have severe regulations. The decisions handed down by the Supreme Court may, in some instances, be seen to overlap and even be in direct opposition to one another.

**FORENSIC FINGERPRINTING**

Since the beginning of forensic science more than a century ago, fingerprints have been considered the most reliable method for human identification. Despite the discovery of DNA fingerprinting, fingerprints are still universally used. In a vast number of instances involving severe crimes, fingerprints have been an essential piece of evidence. In the context of illegal activity, offenders make every effort to conceal evidence that is within their grasp. However, fingerprints are something that cannot be simply covered up, which is one of the reasons why they play such a crucial part in the process of investigating a crime.

Human fingerprints are suitable as long-lasting markers of human identification because they are one-of-a-kind, difficult to modify, and persistent over the course of a person's life. Law enforcement agencies and other governmental entities may quickly and easily use fingerprints to identify individuals who are concealing their identities, as well as to identify the deceased or people who are otherwise unable to look after self, which may be because of the outcome of some natural calamity. At a crime scene, there is no evidence that can be stored for an acceptable

period of time before it fades other than fingerprints. This is because these prints are unique to each person.

The criminal justice system in India is one of the systems throughout the world that makes use of fingerprints. Fingerprints may be taken from either the palm or the fingers. The gathering of fingerprints from the scene of the crime is an extremely important step in determining whether or not a person will be found guilty. Not only are offenders' fingerprints important for identifying them after a crime has been committed, but they also have other applications. It took the legal system and the general public some time to acknowledge the significance of fingerprints as a scientific tool, but this is now universally acknowledged around the globe.

## DNA PROFILING

A DNA test, also known as "DNA Profiling" after its popular name, is a method in which a sample of DNA is processed through an assay in a laboratory to generate information about it. The assay looks for specific DNA sequences that could determine the source of the sample or serve as a basis for comparison between two samples. DNA tests are also known as "DNA profiling." This method is used all throughout the world for a wide variety of reasons, ranging from the administration of justice to the provision of medical care. In the year 1984, Sir Alec Jeffrey, working at the University of Leicester in England, was the first person to publicly report on the technique of DNA testing. Not long after this event, it rapidly rose through the ranks to become one of the most significant technologies in the field of forensic science. The phrase "DNA Fingerprint" held the idea of absolute identification when it was used in the papers that Jeffery and his coworkers produced in the year 1985. In 1985, forensic DNA typing was used for the first time in a casework setting in the United Kingdom. In the late 1980s, forensic DNA typing was started in the United States by Commercial Laboratories, and in 1988, the Federal Bureau of Investigation followed suit. Forensic DNA typing is now used in a variety of cases relating to crimes, divorce, adultery, and other similar topics.

## REVIEW OF LITERATURE

- “Daubert v. Merrell Dow Pharmaceuticals and the Local Construction of Reliability” by Rob Robinson

When examining the admissibility of expert evidence under the Daubert standard, scholars often use the four dicta noted by Justice Blackmun (testing, peer-review, mistake rate, and widespread acceptance) to make their determinations. This method is given a critical review by the researcher in this study. He argues that Daubert cannot accurately forecast admissibility judgements and that such choices cannot be well predicted. Even with the dicta, Daubert does not have a clear position on what constitutes "good science," does not have a clear legal rule for judges to apply, does not have a cognizable position on the degree of scrutiny that should be applied to expert testimony, and does not have a clear position on what constitutes "good science."

- “Applicability of Forensic Science in Criminal Justice System in India With Special Emphasis on Crime Scene Investigation” by Sonia Kaul Shali

The criminal justice system is the collection of agencies, courts, and other organizations that works to maintain or restore social order and safety. It may also be seen as as "the planned or coordinated manner in which society reacts to deviant, difficult, disturbing, threatening, bothersome, or otherwise unwanted behaviour or individuals." Policing, prosecuting, judging, and incarcerating are the main pillars of the criminal justice system's administration. These four bodies play a key role in society by acting as a deterrent, acknowledging wrongdoers, prosecuting them, mediating disputes, and punishing them. A safe and peaceful society is impossible to achieve without an effective criminal justice system. In truth, a well-functioning criminal justice system is crucial to the survival of any civilized community.

- “Applicability Of Forensic Science In Criminal Justice System” , India by Reema Bhattacharya

Criminal law and procedure developed in India, as they have in any other culture with a sophisticated culture. India's development was shaped by the social, economic, and political climate of the time. As a result, the goals of criminal justice and the means by which it was administered evolved throughout time and across historical eras. The authorities used novel approaches to enforcing the law and dispensing justice in order to keep up with the dynamic nature of the political climate. A significant step forward in the development of criminal justice

has occurred in the past few decades with the introduction of technological innovations into the process of investigating crimes. The courts take into consideration these tangible evidences, otherwise unassailable, and judge with greater precision whether or not the defendant is guilty. The field of forensics operates within the framework of the law. Its goal is to aid law enforcement in their investigations and give courts with reliable data on which to base their decisions in both criminal and civil cases.

- "Forensic Science in Crime Investigation" by B.S. Nabar

The author has spent years teaching this material in a top-tier academy for police officers, and as a result, the material is presented here in a clear and concise manner. The book was written with the intention of being used by both forensic science students and criminal justice practitioners.

- "An Introduction to Forensic Science in Criminal Investigation" by Dr. Rukmani Krishnamurthy

In India, the government must provide unmistakable evidence of guilt. Officers from the police department, the forensic science division, the medical-legal division, and the judicial branch all contribute to the process of detecting criminal activity. Modern scientific methods have been supported by scientific developments in different fields, allowing them to quickly supply answers to the bulk of humankind's issues. Forensic Science was developed as a result of efforts to update the traditional method of inquiry (i.e. the science used in the courts of law). The world gradually came to recognise science's undeniable power in producing conclusive evidence as its use in solving criminal cases grew. The western nations led, as usual. However, India did not trail too far behind, and by the middle of the nineteenth century, a few 'Laboratories, of Chemical Examiners' had been formed. However, their impact was little, and for the next almost hundred years, they saw little growth.

## RESEARCH GAP

The research paper is just limited to the secondary source of data. No questioners or any other primary source has been used.

## OBJECTIVE OF THE STUDY

1. To study legislation dealing with the admissibility of the evidence adduced through scientific methods
2. To critically examine the Supreme Court cases regarding the admissibility of DNA Fingerprinting.
3. To study scientific methods and efficacy of the existing technology in evaluating the scientific evidence with special reference to DNA profiling and Fingerprinting.
4. To study the societal and legal understanding forensic evidence.
5. To identify and understand the shortcomings in criminal legislation, in the suggest suitable remedies for the removal of defects and bring effective changes.

## HYPOTHESIS

The use of forensic methods has been neglected, underappreciated and abused which has caused its validity of the Forensic evidence adduced through scientific methods in question as the law governing is not properly legislated. There is no use of DNA Fingerprinting and DNA Profiling in studying evidence, obtained in an crime scene.

## RESEARCH QUESSTION

The forensic evidence has been an essential component of the criminal investigation; these provide aid the courts to arrive to an educated conclusion. Expert use their skills and provide an insight to the court due to lack of procedural control and understanding of the subject its admissibility remains a matter question. DNA Fingerprinting and DNA Profiling are now a very reliable means to look at evidence in a scientific manner.

## RESEARCH METHODOLOGY

The research would be doctrinal and would employ Case Study Method. Legislations, judicial precedents and reports were used as the primary materials and legal and scientific literatures as secondary source. Appraisal of the legislation and the Supreme Court cases on the concerned topic, the researcher would utilize the resources like print and electronic media, articles and reports of various authorities, books in the library, internet websites like Google search; discussed the project with colleagues, research associates & friends.

# FORENSIC EVIDENCE IN INDIA

The forensic evidence has come into existence through interpretation of more than the law itself. This forensic evidence comes to the court when other evidence is not available such a eye witness, thus introduced at first as an exception to the rule. The general rule is that the opinion of persons or the beliefs of the witnesses are not admissible in the Court.[3] The 'Best Evidence Rule' of law of evidence, that is to say the only the best evidence should be adduced before the court. And this best evidence is the evidence which has come from a direct source such as a eye witness testimony. This rule of evidence is to warrants that the Court comes to correct conclusion without wasting its time. In case of *Folkes v. Chadd*[4], Court observed, "if on the proven facts a judge or jury can form their own conclusions without help, then the opinion of an expert is unnecessary and it may waste the court's time."[5] The court in deciding any matter requires witnesses who would provide insight into the offence, how it happened or who has done it. The witness provide the court with facts, this 'fact' according to section 3 of Indian Evidence Act, 1872[6] are only facts and which excludes any presumption, bias, opinion, beliefs, etc. It should be understood that these facts must be perceived by the witness through one of his five senses.[7] Thus any evidence which is in exception to this is generally not entertained in the court and is considered to be hearsay, but evidence should be direct and the evidence of an eye witness is usually considered as a direct evidence[8].

[3] Hodge Malek QC, Phipson on Evidence, 16th Rev. Ed., Sweet & Maxwell, 2005, p. 475.

[4] (1782) 3 Doug K.B. 157

[5] Colin Tapper. Cross and Tapper on Evidence (8th ed. Butterworths, London 1995). p.555

[6] "Fact".-"Fact" means and includes-

(1) anything, state of things, or relation of things, capable of beingperceived by the senses;

(2) any mental condition of which any person is conscious.

[7] Saunak Rajguru, Evidentiary Value of Medical Witness, Lekhoj Research Journal of Law & Socio-Economic Issues, Vol 1, Issue II, Lekhoj Publications, ISSN: 2456-4524, p. 4.

[8] Paul Starrett, Interview & Interrogation with Eyewitness Evidence, LawTech Publishing Group, 2015

In cases where there are no direct evidences the Court resorts to different evidence. Forensic evidence is one of them this requires for the person giving this evidence knowledge and skill which Court does not possess the expertise thus call the Expert. 'Expert' is someone who has knowledge and skill of a particular field. The Court ask for Expert evidence to assist in the case where a certain specific and technical knowledge is required. As this evidence is an exception to the best evidence rule or the direct evidence rule, it can be used to corroboration, the Court is not bound the evidence, and it wholly depends on the circumstances whether the evidence is relevant. One of the most important requirement for the expert evidence as that a report of the findings are to be produced in the court and with it the opportunity to cross examination when necessary. Expert evidence can be used in both civil and criminal cases. Expert testimony is used by civil and common law courts alike to assist judges and juries in making sound decisions of fact. Testimony from credible experts is crucial to the fair and impartial assessment of trial evidence and the rendering of fair and impartial findings. As a result of the weight that is placed on expert opinion, the rules for the admission of such testimony are constantly being refined to keep up with the changing times. While the courts make every effort to ensure that only credible and trustworthy expert testimony is admitted, judges may lack the knowledge and training to fairly assess systematic approach, and the adversarial structure of many judicial systems may lead to political prejudice in expert opinion. Therefore, courts require procedural protections to aid fact finders in determining the credibility of expert evidence. The law of Evidence is a body of laws that governs the admissibility of evidence in both civil and criminal proceedings. It is exclusive in nature, meaning that it provides the foundation for withholding evidence away from scrutiny of the jury if its potential for the truth is compromised by the essence or origin of the information being presented, or if its probative value would be greatly exceeded by bias, confusion of the issues, or classification as the unnecessary presentation of cumutatious evidence.[9]When comparing jurisdictions, it is important to note that Canada has recognized the Daubert standard and that the law of the United Kingdom and Wales have utilised it as the foundation for a new criterion for the admissibility of scientific evidence. Now, the American

[9] Carl Becker, Everyman His Own Historian, American Historical Review, XXVII (January, 1932), quoted in Winks, The Historian as Detective (Harper Torchbooks, 1968) at 6. Also see, David Hackett Fischer, Historians' Fallacies: Toward a Logic of Historical Fact (Harper Torchbooks, 1970).

Society for Testing and Materials (ASTM), which was created in 1898 to provide standards for materials but today also sets standards for documents across the globe, considers Daubert to be a "standard".[10]

**FORENSIC INVESTIGATION AND EVIDENCE:**

The truth is a delicate thing. The idea of a fact is a human invention, developed as a means of negotiating humanity's place in and understanding of the material universe. Science has given us means of reaching consensus on the veracity of matters, and it is actively attempting to rid human thought of its inherent and accidental social, political, religious, and other prejudices via the use of rigorous empirical scrutiny.[11]

To solve crimes, forensics experts rely on cold, hard science. This suggests that the police are using a rational, methodical, and systematic approach on the site of the crime. The process starts with the initial reaction to a scene of the crime and ends with the reconstruction of the scene after it has been secured, documented, evidence was identified, patterns were enhanced, evidence was collected, packaged, and preserved, and the crime scene was analysed and profiled. In addition to the Locard Transfer Principle and the Linkage Principle, these two theories form the foundation of scientific crime scene analysis. In order to solve a case, investigators need to combine their existing knowledge of the world with the forensic procedures used to examine physical evidence.[12]

It's not easy to solve complex problems like those that arise during a criminal inquiry. When responding to a crime scene, police officers are often put in the position of having to make split-second judgements about the outcome of potentially life-or-death situations with incomplete or inaccurate information in the midst of fast unfolding events. The investigator's duties

[10] Comparing Law as Science with Science in the Law: Preliminary Thoughts, Kirk W. Junker*, Law and Forensic Science, Vol. 12 page 95.

[11] Comparing Law As Science With Science In The Law: Preliminary Thoughts, Kirk W. Junker*, Law And Forensic Science, Vol. 12 Page 95.

[12] Avens Publishing Group, J Forensic Investigation, September 2013 Vol.:1, Issue:2, Henry C. Lee1* And Elaine M. Pagliaro2

immediately after a criminal incident include maintaining the integrity of the crime scene, collecting evidence, and formulating a strategy that will lead to probable cause for the suspect's identification and subsequent arrest. Police investigators understand investigative methods via training and experience to create investigation strategies and prioritise answers to various issues.[13]

Information of the following categories is often provided by forensic science and criminalistics labs based on the scientific study of physical evidence obtained from crime scenes, victims, and suspects. Forensic science services begin at the site of a crime, when they identify and collect tangible evidence. In the end, the results are taken to a lab, where they are analysed and evaluated before being presented to the appropriate authorities (judges, prosecutors, defence attorneys, etc.). All workers engaged, from first responders to information consumers, must have a firm grasp of the forensic examination, the scientific disciplines, and the specific services offered by forensic labs. There is no way to use forensic evidence in court without also using the opinion of forensic specialists. This fact gives rise to a number of legal concerns, the least of which is a fundamental familiarity with the rules of penal disclosure and the overarching rules of evidence, which govern the full information flow at any court, not just one for the prosecution of a criminal conduct.[14]

Professor Edward Imwinkelried, one of the most eminent evidence experts in the United States, has made the observation that the fortunate occurrence can be too odd, weird, absurd, uncommon, or objectively unlikely to be believed. The coincidence becomes damning proof of the perpetrator's mens rea.[15]

The doctrine’s basics have recently been characterized in the case of United States v. York, by stating that “the man who wins the lottery once is envied; the one who wins it twice is

[13] Gehl, Rod & Plecas, Darryl. (2016). *Introduction To Criminal Investigation: Processes, Practices And Thinking*. New Westminster, BC: Justice Institute Of British Columbia. Page 1

[14] Forensic Evidence : Science And The Criminal Law / Terrence F. Kiely, 2001 By CRC Press LLC Page 43s

[15] Dward J. Imwinkelried: “The Use Of Evidence Of An Accused’s Uncharged Misconduct To Prove Mens Rea: The Doctrines Which Threaten To Engulf The Character Evidence Prohibition,” 51 Ohio St. L.J. 575, 586-93 (1990).

investigated."[16]The Wynn dissenting opinion pointed out that the probative value of the legally permitted inference may be derived independently of the illegal inference, which is the subjectivity of the two-time lottery winner. According to the dissenting opinion, the assertion that the event in question was completely innocent is debunked by the fact that it is objectively implausible, even in the absence of any illegal action.[17]

## NEED FOR FORENSIC INVESTIGATION

Normally forensic investigation is done both in civil and criminal cases. In civil matter for establishing the proper execution of document by verification of handwriting and signature, also authenticating a document is validity. In criminal matters this list becomes more elaborate for establishing the cause of death and other bodily injury, in some cases to develop intent of the offence. In India, the administration of justice is based on the adversarial system, and the only time that medical evidence is often accepted is when an expert testifies orally under oath in a court of law. However, there are few exceptions to this rule, including the following:

- The admission of the evidence has already been made in the court;
- Opinions of an expertsaid in a treatise
- Evidence provided in a judicial proceeding taken place already;
- An expert can't be a witness and be called upon; [18]

## LAW RELATING TO FORENSIC EVIDENCE:

The real-world setting out of which the concerns based on science are discussed in this book emerge is based on the proffering of expert evidence in civil or criminal proceedings, when one party, at a pretrial hearing, tries to dispute the legitimacy of the other side's experts testifying at

[16] United States V. York, 933 F.2d 1343, 1350 (7th Cir. 1991).

[17] Wynn V. State, 351 Md. 307, 718 A.2d 588 (1998).

[18] Arindam Datta, ―Forensic Evidence: The Legal Scenario", Dept. of Law, University of Calcutta, http://www.legalserviceindia.com/article/l153-ForensicEvidence.html

all, or, as is more usually the case, to attack the trustworthiness or overall acceptance of the methodology utilised by the expert in generating an opinion.[19]

When India is concerned, the governing laws related to evidence is the same regardless of whether the case is civil or criminal. Although the burden of proof necessary may vary somewhat from one kind of proceeding to the next, the manner in which evidence is presented is governed by the same body of law. In India, the administration of justice is based on the adversarial system, and the only time that medical evidence is often accepted is when an expert testifies orally under oath in a court of law. However, there are few exceptions to this rule.

It is possible to define medical or forensic evidence as the legal methods to prove or refute any medicolegal problem in question. This is often supplied either verbally or in the form of written documentation.

**Documentary Evidence:**

The are all documents written or printed that are to be produced before court for examination as stated under Indian Evidence Act, 1972. Forensic or medical documentary evidence includes:

- "Medical Certificates (in relation to ill health, death, insanity, age, sex or pensioned disabilities, etc.).
- Medical Reports (injury report, postmortem report, report on sexual offences, pregnancy, abortion or delivery etc.).
- Dying declaration.
- Miscellaneous (expert opinion from books and deposition in previous judicial proceedings, etc.)."

**Oral Evidence:**

All remarks that the court allows or mandates to be made on the facts at issue are considered to be oral evidence. It is essential that direct testimony be given orally wherever feasible in

[19] Forensic Evidence : Science And The Criminal Law / Terrence F. Kiely, 2001 By CRC Press LLC Page 7

accordance with Section 60 of the Indian Evidence Act (IEA). In other words, it must be the testimony of someone who really saw what happened. So, if a piece of oral evidence is referring to something that might be seen, heard, or experienced in any other way, it must be the testimony of the person who really did see, hear, or sense it. If it's someone's viewpoint, it must be supported with proof from that person. Witnesses who do not have firsthand experience with the events in question may only testify by repeating what they have overheard others say; this kind of testimony is known as hearsay or indirect evidence.

Since witnesses may be questioned about the veracity of their statements in an oral hearing, this makes oral evidence more compelling than written evidence. There are times when it is either not practicable or not necessarily required for all oral testimony to be direct and open to cross-examination. In certain situations, the word of the individual who has really heard or perceived anything, or seen or investigated the event in question, has more weight than the word of anybody else. The following is a list of these special cases:

1. Dying declaration: Although this is hearsay or indirect evidence, it is recognised in court as legal evidence in the case that the victim dies. This is because it is considered that persons who are nearing the end of their lives would tell the truth when they have the opportunity to do so.

2. Opinions of experts that are published in a treatise: According to Section 60 of the Evidence Act, opinions of experts that are published in books that are generally available for purchase are usually recognized as proof on the production of such treatises, even in the absence of oral evidence of the author.

3. The testimony of a medical expert that was recorded in a court of lower jurisdiction: As per Section 291 CrPC, this is accepted as evidence in a higher court when it has been recorded and attested by a magistrate in the presence of the accused or his lawyer who had an opportunity of cross-examining the witness. The medical witness is, however, liable to be summoned.

4. Testimony presented by a witness in an earlier trial or other legal procedure: Under Section 33 IEA, this is admitted as evidence in a subsequent judicial proceeding or in a

later stage of the same judicial proceeding when the witness is dead, untraceable or incapable of giving evidence or cannot be called without unreasonable delay or expense to the court.

5. Statements made by individuals who are unable to serve as witnesses: Under Section 32 IEA, these are admissible as evidence when the person who made them is either dead, untraceable or has become incapable of giving evidence or cannot be called without unreasonable delay or expense to the court.

6. A report compiled by a number of government-appointed scientific experts: Under Section 293(1) CrPC, reports of certain government scientific experts are usually admitted in the court as evidence without their oral examination. However, under Section 293(2) CrPC, the court is given discretionary power to sum- mon and examine them if their report is found inadequate or there is some specific request from the prosecution or the defence. Under 293(3), where any such expert is summoned by a court and he is unable to attend personally, he may, unless the court has expressly directed him to appear personally, depute any responsible officer with him to attend the court, if such officer is conversant with the facts of the case and can satisfactorily depose in court on his behalf. The names of the Government Scientific Experts whose reports are admissible as evidence as such in inquiry, trial or other proceeding mentioned under 293(4) are (i) Chemical Examiner or Assistant Chemical Examiner, (ii ) Chief Controller of Explosives, (iii ) Director of Fingerprint Bureau, (iv) Director of Haffkine Institute, Mumbai, (v) Director/Deputy Director/Assistant Director of a Central Forensic Science Laboratory or a State Forensic Science Laboratory, (vi) Serologist and (vii) any other Government Scientific Expert specified by notification by the Central Government for this purpose.

7. 7. Public records are any records that are stored in a public office. Some examples of public records are certificates of birth and death, marriage licences, and other similar documents.

8. Hospital records: Typical hospital records include dates of admission and discharge as well as vital signs like pulse and temperature. However, without oral proof, the existence

> of a sickness, the effectiveness of a therapy, the accuracy of a diagnosis, etc., are not acknowledged.[20]

The precedent-setting decision made by the Supreme Court of the United States in the case of Daubert has been called a "reliability-validity" paradigm. As contrast to Frye, Daubert requires the trial court to conduct an impartial review of the evidence in order to decide whether or not it should be admitted into evidence. This is the primary difference between Daubert and Frye. In light of the Daubert decision, there is now an established standard for determining whether or not scientific evidence may be presented in court. When the United States Supreme Court interpreted the wording of the Federal Rules of Evidence for the first time, they did so in regard to the admission of evidence from scientific experts. Under the Daubert standard, admission must satisfy both the relevance and reliability requirements. When deciding whether or not to accept scientific evidence, trial judges are required to pay careful regard to the key factors listed above. The dependability of the evidence that is presented during a trial that includes a scientific field is what must be used to determine whether or not it is relevant. Most clearly, the fact that trial practise does not seem to have been influenced by a significant formal movement in admissibility criteria is unsettling. This is the most apparent concern. The likelihood that previous convictions were based on faulty evidence has not yet been taken into consideration by the courts or the prosecutors, nor has the obligation to evaluate past practise that this realisation involves been taken into consideration. By adhering to forensic or legal reliability rather than empirical reliability, courts are able to resort to a precedent-based approach, in which opinions or methods that were admitted prior to the adoption of reliability standards continue to be admitted. This is because forensic or legal reliability is more rigorous than empirical reliability. In order for any evidence to have any probative value at all, it must first be reliable according to the law and then relevant according to logic.

The term "probative value" refers to the contribution that scientific evidence and expert testimony make to the court's ability to arrive at a certain decision in situations in which technical help is required. It offers no assistance to the Court in terms of interpretation. However,

[20]Krishan Vij, Principles And Practice, Fifth Edition 2011 Elsevier Textbook Of Forensic Medicine And Toxicology, Page 8

it is not possible to make it a rule of law that the court cannot make a sensible guessing based on whatever evidence is in the record if there is no professional help accessible and if it is possible to make a reasonable guess based on available evidence that is in the record even if such evidence was not presented in a particular case. This would be contrary to the principles of natural justice.[21]Therefore, the judges who preside over the trial are obligated to take into consideration the fact that the credence of such a witness is contingent upon the reasons that the witness gives in assistance of his conclusions, as well as the data and material that is provided, which constitutes the foundation for the conclusion of the witness..[22]Even though nowhere in the Indian Evidence Act does it clearly mention that corroboration is sine qua non for the specified objective, courts have adopted this criterion to guarantee that the decision is free from any collusion and rely on expert opinions if they can be verified.[23]

**Forensic Evidence being admissible in Indian Court Rooms**

Sections 45 and 46 of the Indian Evidence Act provide a concise summary of the criteria that must be met for forensic findings to be admitted into legal proceedings. The following components are included under Sections 45 and 46:

- Whenever the court determines that it is essential to do so, it will depend on qualified experts who have both technical and field competence on the facts that are presented in the case.
- The court will place significant weight on the report that was presented by the professional or the expert who came at his findings after following a number of different processes and doing so in good faith.
- Any piece of evidence that seems to be unimportant to the court but is, in the opinion of the expert, of considerable importance, will be given relevance as a direct consequence of the expert's point of view.

[21]S.V. Joga Rao, Sir John Woodroffe & Syed Amir Ali's Law of Evidence, 17th Edn., Lexis Nexis Butterworths, p.2351.

[22]AIR 1999 SC 3318.

[23]. *Palania Pillai v. State*, 1991 Cri LJ 1563.

**Indian Penal Code, 1860**

1. Damage to a person's health, mind, reputation, or property is considered injury under Section 44.
2. Hurt (Section 319): A person who has been physically harmed experiences some kind of physical pain, illness, or disability.
3. Grievous Injury (Section 320)
4. "Voluntary causing harm" is defined under Section 319 of the Indian Penal Code
5. "Voluntarily Causing Grievous Hurt" is mentioned in Section 322.
6. Assault is defined as the use of force or the threat of force under Section 351. Any action that causes another person to reasonably fear that you are going to use illegal force against them constitutes an assault, whether or not you really intend to harm that person.
7. Section 323 of the IPC details the penalties for knowingly causing harm. Sentences of up to one year in jail and/or fines of up to Rs. 1,000 are possible.
8. Section 324 of the Indian Penal Code stipulates a maximum sentence of three years in jail, together with or instead of a fine, for knowingly causing bodily harm with a dangerous weapon.
9. IPC 325 lays down the penalties for knowingly and willfully inflicting great bodily harm on another person. Receive a possible 7-year prison term and/or monetary punishment.
10. Section 326 of the Indian Penal Code lays out the penalties for knowingly inflicting grievous bodily harm using an unlawful weapon or means. Gets life in prison, 10 years in prison, a fine, or both.
11. In Section 328 of the Indian Penal Code, the maximum penalty for inflicting damage using poison, etc., is 10 years in jail and/or a fine.

**Indian Evidence Act, 1872**

1. In Section 45, we talk about the perspectives of experts. Opinions of experts who are exceptionally knowledgeable in such foreign law, science, or art, or in determining the identity of handwriting, are significant facts when the Court must establish an opinion on such a matter. People who are experts are like this.
2. If the victim of a rape testifies in court that she did not give her assent to sexual activity, the court must accept her word for it and find that the alleged rape victim acted without her knowledge or consent (Section 114A).

**Code For Criminal Procedure, 1973**

1. Section 53 (I) CrPC: A medical professional may examine a suspect at the demand of a law enforcement officer using reasonable force.
2. Section 53 (ii) CrPC: If the accused is a woman, she may only be examined by, or under the direction of, a female physician..
3. Under Section 54 of the Criminal Procedure Code, a medical doctor is permitted to examine an arrested person at the suspect's request if the examination is necessary to discover evidence in the suspect's favour.
4. Section 174 of the Criminal Procedure Code: The police have responsibilities that include investigating and reporting suicides.
5. Section 176 CrPC: The inquiry made by Magistrate in situations of death.

**Indian Medical Council Act, 1956**

"Professional Conduct (Section 20A):

1. The Council may establish norms of professional conduct and etiquette for medical practitioners, as well as a code of ethics.

2. The Council's regulations adopted under sub-section

It may specify which violations shall constitute notorious conduct in any professional regard, i.e., professional misconduct, and such provision shall apply notwithstanding any other provision of legislation now in force."

**DUTY OF THE MEDICAL PRACTITIONER:**

Through the Indian Medical Council (Professional Conduct, Etiquette and Ethics Regulations), 2002, which were revised in 2009, the Central Government of India has also enacted rules concerning medical ethics. These regulations outline the responsibilities that a medical practitioner is expected to fulfil. These regulations comprise the dos and don'ts that the medical practitioner is required to follow first, the mandatory obligation that he owes towards the State, and norms that have been put down via the process of notification. The second is the responsibility that is due as a matter of voluntary obligation to the patient, the consultation procedure, and any other item connected to it. A medical record of the patient is required to be kept by the doctor for a period of three years, after which it may be requested by any legal body.

The Hippocratic Oath is a mandatory requirement for medical professionals. Any person who wishes to practise medicine must, according to custom, first sign this oath, which is an oath that was established via a process in which certain ethical criteria were outlined. Over the course of time, several nations, institutions, and organisations have modified the wording of certain portions of the Oath or eliminated them altogether.

**CONCLUSION**

It is necessary not only to train the investigating agencies dealing with Fingerprint evidence but also Judges and lawyers should also act effectively. A proper scientific education to Judges and lawyers regarding Fingerprint evidence may help to some extent in removing scientific ignorance. Fingerprint evidence have farfetched resulted in the form of solving various criminal cases. The significance of the fingerprint evidence cannot be ignored as it forms the basis of Criminal Justice system in India.

VOLUME 3 | ISSUE 3 FEBRUARY 2023 ISSN: 2582-7340



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