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# **THE INTERLINK BETWEEN FORENSIC EVIDENCE AND CRIMINAL INVESTIGATION: A DETAILED OVERVIEW**

- **Roshni Dutta<sup>1</sup>**

## **ABSTRACT**

This paper explains the various aspects of Forensic evidence & the usage of it on modern criminal laws. Crimes are increasing day by day in this modern world with the advancement of science and technology. There are new and different types of crimes committed by the criminals. Sometimes it gets very hard to catch the main culprit behind the crime. Forensic evidences help us with that.

This paper explores the topics like how a crime is committed, the interlink between medical and legal studies, the historical development of Forensic science in India, it's development, evolution with the changing society. The society around us is changing day by day and the way of committing a crime is also changing with it. If we study the crimes of past few years , we will see that the crimes have become more heinous and grievous in nature. This paper also study about all those crimes and the impact of Forensic evidence in solving the crimes. The importance or the significance of the forensic evidences.

It begins with the historical development and further explained the various ways to collect Forensic evidences, the example of several old case laws which improved the structure of Forensic science. The paper also explains the role to determine a Judgement in a case. The reliability and accuracy of Forensic evidence are also mentioned here in this paper.

The paper also mentions it's importance to prove the innocence of a suspect or to prove the guilt of a suspect. The procedure of police investigation in a criminal case and how the Forensic evidences can be used in a court of law in a case.

The paper not only mentions the importance but also explains further the controversies and some mutual challenges like corruption, the reliability and transparency of Forensic evidence because there is a proverb "Money can buy everything". Several examples of case laws which led to wrongful convictions due to Forensic evidence.

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<sup>1</sup> LJD Law College, Falta, Under Calcutta University.

The paper also explains the change and a few alterations which are needed to improve the forensic science more in order to get more accurate results in dealing with criminal matters. In conclusion, this paper provides us a detailed overview of Forensic science and how it has been shaping and shaped the criminal laws also providing us the need for a constant change in this to create a reliable Judgement in a criminal case.

## **INTRODUCTION**

When we talk about the importance of Forensic evidence in investigating we cannot forget that it plays a crucial role in determining the role of a suspect in a criminal case. When a crime happens the investigators usually starts investigation by depending on the forensic evidences. Forensic evidences are considered as the most important element which provides a comprehensive overview of a committed crime. From old times, fingerprinting to DNA matching to post-mortem all these have been playing a crucial role in reshaping the crime basically working as powerful tools to prove guilt and innocence. Forensic evidences not only help police to resolve the investigation but also helps the legal professionals to argue a case in a court of law.

In critical cases or If we talk about high profile cases there is a pressure from upper body and forensic help to solve the crime as early as possible. In this way the cases are properly investigated, prosecuted and adjudicated.

Solely depending on the eye witnesses to solve a case becomes quite critical and there are high chances of providing misinformation or wrong information so with the forensic evidences the testimonies of eye witnesses can be proved which is helpful for judicial proceedings.

## **THE HISTORY AND DEVELOPMENT OF FORENSIC EVIDENCE IN INDIA**

As we know Forensic evidences are the most crucial part of an investigation process. It has been playing an important role in legal system for a very long time. Before discussing about the impact I'd like to discuss first about the development and history of Forensic science. Although the concept of Forensic evidence isn't so much popular in Old times though the first reference was found in Kautilya's 'Arthashastra' written before 2300 years ago. After studying it is presumed by Scientists that people knew about fingerprints in ancient time too like the signatures or thumb impression. People also knew about handprint tarija which is something people cannot copy that. It was scientifically proved later on that "fingerprints were infallible". In 19th century there was a rise in death cases due to poisoning for which a need was felt to detect different varieties of poisons & it's effects on human so the first chemical laboratory was introduced then Madras presidency, the department of health in 1849. Later on several more laboratories

were set up in different Metropolitan cities followed by this. In the year 1915 a footprint section under CID government of West Bengal. These foot prints helped the investigators to identify the criminal more effectively through the examination.

During 1936, a note scientific section was also established under the Government of West Bengal in order to study the firearms, bullets which are used in commission of crimes. In the year of 1953, it became more active. The first central finger print Bureau was established in 1905. The INDIAN ACADEMY OF FORENSIC SCIENCE was established in 1960. Later on the establishment of Institute of Criminology & Forensic Science at New Delhi, so slowly after 1849, the second Forensic evidence laboratory was established in 1853. The 3rd one was set up in Agra in 1864, 4th one was set up in 1870 in Mumbai. After independence the first state laboratory was established in 1952 in Calcutta. This is how the establishment of Forensic laboratories are occurring since 1900s.

I would like to mention several case laws where Forensic evidence played an important role in solving. Landmark cases include VASU VS SANTHA 1975, the hon'ble Court reshaped the structure of Forensic science & set a higher and compact standard regarding DNA TEST and its admissibility. According to the hon'ble Justice, 1. "Courts in India cannot order blood tests as a matter of course". "Wherever applications for such petitions are filed in order to conduct a roving inquiry, the Forensic Evidences in Criminal Trial: Need of the Hour blood test request cannot be accepted". The court should contemplate the outcome of a blood test. The blood test is considered as an important tool to deal with paternal disputes or disputes where there arrives a question of the legitimacy of a child.

**TANDUR MURDER CASE(1995), DELHI:** This case is quite important because this was the first criminal case which was solved by using Forensic science. Accused Shusil Sharma committed a murder. He murdered his wife because he had a doubt that his wife had an affair with her childhood friend. After committing the murder he took his wife's body to Bagiya restaurant where the manager of that restaurant assisted him in clearing the evidence. They tried to burn her body in a tandoor. The gun and blood covered clothes were recovered by the police and those were sent to the laboratory for a thorough examination. The blood from the victim's parents were also sent to the laboratory and it was proved that the blood was matched with the parents of the victim's.

Now a question which will definitely arise here whether the forensic evidences are accurate in determining the role of a suspect in a crime? As mentioned earlier, Forensic evidences are definitely reliable but to some extent. This matter is quite debatable because for example some evidences such as hair, fingerprint, blood these are usually contemplated as circumstantial evidence and circumstantial evidences need interpretation. And it is not a solid evidence to prove someone's guilt. As mentioned in an article "Forensic evidence may form part of a case, but it is not the whole case". If we talk about fingerprints and DNA those are definitely beneficial to identify an individual but when a crime is committed and it becomes very hard for Forensic

investigators to collect the untouched and unmixed samples. The technicians of lab also can make mistakes. So there are both pros and cons of Forensic evidences.

Now I'd like to discuss a bit the connection between both law and forensic evidences and how both are interlinked with each other.

How these factors are dependent on each other. Forensic science basically helps to identify the criminal activities more accurately, helps for reconstruction of the crime. Medical examiners play a crucial role in deciding whether the death is a natural one or unnatural one. After doing a detailed scrutiny and investigation of all the materials related to the crime or criminal or the victim, the investigators come to a conclusion or make an assumption. It helps to uphold the principles of justice, to protect from wrongful convictions and to ensure the path of justice. Forensic science became an integral part of legal system. I shall mention the sections of Criminal laws which are related to Forensic science or deal with Forensic evidence. Section 176 of Bhartiya Nagarik Suraksha Sanhita states the procedure of investigating a crime after it is committed. Subsection 3 states that Forensic investigators shall collect the objects from the crime scene after the police investigation and it will help police in further investigation. "On receipt of information relating to the commission of an offence, which is made punishable for seven years or more, the officer in charge of a police station shall...cause the forensics expert to visit the crime scene to collect forensic evidence in the offence and also for videography of the process on a mobile phone or any other electronic device," Section 176 (3) of the BNSS reads".

Now I'd like to describe a bit about different types of Forensic evidences.

Those are mentioned hereunder:

1. **Forensic odontology<sup>19</sup>:** Which basically means dentistry but related to Forensic department. If we state the meaning in simple language Forensic odontology basically studies the bite marks, mouth anatomy, oral structure etc.
2. **Forensic toxicology:** studies about the various types of medicines, drugs and its effects. Basically in poisoning, sexual assault cases, accidents in this kind of cases it basically checks the existence of a medication in human body, whether it affects the body or not, how much effect it has on human body etc are studied in toxicology.
3. **Forensic anthropology:** studies about the overall human anatomy structure like skeleton. After studying the skeleton to determine whether it's a male or female and to determine the death of the human, age etc. Basically helps to identify a human, reason and time of death.

4. **Pattern evidence:** This studies two dimensional pattern or three dimensional evidence like fingerprints or bullet marks which actually are used as an important instrument to create a connection between crime & criminal.

5. **Post-mortem:** Post-mortem is studying a dead body after death of an individual. Police handovers the body to Forensic doctors where they cut the body and investigate the reason for the death if the individual. By studying the injury marks, other marks or other signs in organs they come to a conclusion. Post-mortem is basically another most important part as the body solves the main confusion which comes as whether it is an unnatural death or natural death.

6. **Trace evidence:** This helps to discover the location where the death of the victim happened for example. Sand was discovered from the shoes of the victim in that case that sample of sand may help police to assume the location of the death and may help to catch the criminal.

7. **Cyber evidence:** Old and new data, Pen drive, footage electronic data all these are called cyber evidence.

8. **Ballistics:** Example of this type of evidence is suppose A stick was used in a crime whether it was previously used to hit someone else in past. Motion, movement past history of the used weapons such as gun, rifle etc.

The role of Forensic science in criminal laws can be described hereunder. Forensic science basically finds out the clue and studies it scientifically which is used for investing by police. It may include any kind of item such as nail, fingerprint, footprint, cyber evidence, human , any part of human body, and kind of medicine & drug etc. The evidence clearly helps to find out the perpetrator, find out the location where the crime has been committed. This kind of evidences basically tries to ensure the way a crime is committed or we may say revisit of the crime in another way. Every crime investigation has its own challenges and to solve those Forensic evidences are taken either by collecting or from an eye witness. Legal procedures often take a significant amount of time and it is quite a complex procedure especially in criminal cases but with the help of evidences, a big portion of which comes from Forensic helps to upheld the justice as soon as possible.

In Forensic evidence there isn't much space for biasness. The outcome is scientific. This is why DNA TESTING and some other evidences are used worldwide. The first Forensic exam which dated 650AD that was used by finger and palm print examination. As it is helpful for both convicting and proving innocent special acts had been passed in Canada, USA and in Australia which ensures the detection of criminals more effectively by putting stress on the time & area management of the crime scene. India established its first crime laboratory in 1878 and now there are 35 Forensic laboratories across the country.

A continuously changing society puts severe burden on law enforcement to collect facts more effectively and news, laws are putting more pressure on collecting the forensic evidences and the importance of it to rectify errors in any high profile cases.

Now I would state a few case laws where there is a lack of Forensic evidence. First one is **Priyadarshini Mattoo murder case:** Santosh Kumar Singh was accused for the rape & murder of victim Priyadarshini Mattoo. The examination of Forensic evidence was criticized to be specific DNA evidence.

The second case on which I want to put focus is The case of **Dhananjay Chatterjee vs State of West Bengal:** A 18 years old Hetal Parekh was brutally raped and murdered. When her mother came back from a temple according to her she found her daughter dead. At that time the accused was given death penalty and it was executed in 2004. After a thorough study it is claimed by a lot of advocates and lawyers that There were lack of Forensic evidence and there were doubts about the existing evidence which were presented before the court.

The third case is about infamous **Noida double murder case 2008:** This unsolved case is highly criticized. Main and important Forensic evidence such as fingerprints, footprints, murder weapon were not handled clearly. The case is still unsolved to this date. The sole suspects are her parents Dr Rajesh & Nupur Talwar , mother & father of the victim. They were released from Jail in 2017 due to insufficient evidence.

The last case which I want to bring in the limelight is **Dr Binayak Sen Case (2007):** Dr Binayak Sen in this case was accused of sedition particularly helping the Naxalites. He was granted bail on 15th April 2011. The case was criticized because according to critics the forensic evidences which were presented against him was not reliable which led to wrongful conviction.

Even though Forensic evidence is an integral part and faces several potential challenges. I would like to bring the challenges in the limelight. The absence of standardized rules and protocols, presence of corruption especially in high profile cases or in sensitive cases or irresponsibility often lead to unreliable and misinformation of an investigation process, wrongful convictions and an unsolved case. At least in India bureaucratic negligence, not a consistent analysis, quality ensuring mechanisms are absent. Various kinds of procedural delays are common , poor supervision all these are responsible factors.

Especially interference of outsiders in this matter tamper the forensic evidences. Undue influence, Coercion, commission of fraudulent acts in submission of Forensic evidence hamper the normal procedure of investigation and judicial process. The first and foremost thing is to strengthen the procedure, increasing the supervision method of the forensic examination. Ensuring the integrity and removing the political influence and political interference will upheld the principles of Justice more effectively. More advancement in the technology and science, holding special training sessions for Forensic investigators are essential as well. With the evolving nature of society there is indeed a need to mould the forensic study as well. There

are different types of crime, more complex in nature so the advancement of study in Forensic science is essential which will contribute in judiciary and legal system as well.

## **CONCLUSION**

Forensic evidence in one word is the backbone of criminal investigation or in more easy language It can be said that it reshapes the whole structure of a committed crime. A crime which is committed behind the eyes tells us it's story through Forensic investigation. There is a proverb “ A dead never tell a tale” but through Forensic investigation a dead tells its own story through science. The use of the whole Forensic investigation has an impact effect on the result of a case. The case comes into a turning point depending on the forensic analysis. A person may held criminal and as well as innocent depending on it. To ensure the reliability, transparency of the investigation should be maintained as corruption, political interference lead to disturbance of the investigation and lead to injustice. Forensic science acts as a bridge between medical and legal area and the support system of an investigation.