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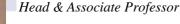
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## **ROLE OF FORENSIC IN CRIMINAL JUSTICE SYSTEM**

AUTHORED BY - VISHNU VERMA

#### ABSTRACT

Forensic science has become an important tool for law enforcement. It has various types that can help to investigate the cases with a view to provide justice to victim or to victim's family. Forensic science assists law enforcement by providing accurate, objective analysis of criminal evidence. It helps to identify the defendant, investigate the duration and understand the nature of the crime. forensic science helps to provide various evidence in order to investigate the criminal case. Basically how forensic science works in the field of law discussed in this paper. And historical background of forensic science, types of forensic science, role in criminal investigation.

Key words- Criminal evidence| forensic science

#### **INTRODUCTION**

The term forensic science is directly related with the law. It can use in both civil and criminal cases and also become important part of evidence in the cases. Now technology has become so advance that it is very easy to indentify the accused with the help of forensic science. The argentina was first country to incorporate forensic evidence for a criminal investigation in 1902. Our indian judiciary relies on evidence like fingerprint, DNA analysis, post-mortem. Lately there has been jump in the use of advanced forensic methods like narco analysis, lie detecter.

#### **HISTORY**

The book Xi Yuan Lu (The Washing Away of Wrongs) published in the 13<sup>th</sup> century in China by Song CI.

Xi Yuan Lu is the first written testimony of the use of medicine and entomology to solve crimes. This book is one of the earliest available literature to help determine the cause of death. The book explained how to make difference between an accidental death from a murder by examining the weapon used to cause death. Some important points are:

- How to preserve evidence during the examination process?
- How to make an antiseptic?

- How to extract a hidden injury from dead bodies and bones?
- How to calculate the time of death based on the weather and insects? and
- How to wash a dead body for examination?

The polygraph test was the examination of saliva, mouth and toungue of the suspect which helps to identify the crime scenes

#### USE OF FINGERPRINTS IN CRIMINAL INVESTIGATION

In Argentina the police discovered bloody handprints on door frame and analyzed it to identify the murderer. By 1896 the law enforcement and other authorities around the world began to use fingerprints.

#### **TYPES OF FORENSIC SCIENCE**

1-Forensic anthropology: it is a study of human remains and skeletal analysis in order to solve the crime scenes.it includes how deceased dead and when deceased dead. By doing this it will become easy for the judiciary to make the decision on certain case.

2-Forensic pathology: in this pathologists are physicians who perform autopsies to determine the cause of death of deceased. They also work on legal and medical matters like collecting evidence, documenting injuries and disease, testifying in court etc

3-Digital forensic: it is the process of extracting evidence from the digital data to resolve the criminal cases, civil fraud, cyberattacks and other matters.

4-Trace evidence: it is the process of analysing tiny amounts of material that are transferred between people, objects or environment during a crime it can be used to link a suspect and victim it includes gunshots, hairs, soil, cosmetics, paint, explosive.

5-Forensic toxicology: It is the application of toxicology to law matters like criminal investigation and court cases. It involves analysing biological samples like blood, urine, and tissue for the presence of drugs, alcohol, and other potentially toxic substances. It plays important in variety of cases.

- **1-DEATH INVESTIGATION**
- 2-DRINK DRIVING CASES

#### **3-DRUG RELATED CASES**

6- Forensic Psychology: Forensic psychology is the interaction between psychology and judicial system in other words it is the branch of psychology which is related with law the forensic psychologists use various tools to prevent the future crimes and it also evaluate criminal's mental state at the time of offense. And it also determine victim's mental state which

further helps the court to evaluate the case. The forensic psychologists also provide counselling to the victim so that he or she can get away from the crime scene which has taken the place in his or her mind.

7- Bloodstain patterns Analysis: It is the study of blood spatter at a crime scene can reveal important information about the nature of crime wheather it is off serious nature or of less serious nature and wheather the injury was inflicted by a weapon or not.

#### **ROLE OF FORENSIC SCIENCE IN CRIMINAL INVESTIGATION**

The forensic science plays very important role in criminal investigations by providing scientifically based evidence that can either link a suspect to a crime or help clear innocent people

1-crime scene investigation: it begins with the systematic collection and documentation of the evidence from a crime scene this process is very crucial because proper collection methods ensure that evidence can be used in courts while improper handling may destroy the evidence which may lead to injustice. forensic investigator at the time gather:

#### -PHYSICAL EVIDENCE

-BIOLOGICAL EVIDENCE

-TRACE EVIDENCE

#### -DIGITAL EVIDENCE

2-Linking suspect to the crime scene: it link the suspect through the physical evidence such as DNA profiling, Fingerprint analysis, Footprints and shoeprints, Ballistics.

3-Establishing motive and opportunity: it help investigators to understand the motive and opportunity through toxicology reports, digital forensic, bloodstain pattern analysis.

4-Reconstruction the crime: the investigators reconstruct the sequence of events that led to the crime this involve crime scene reconstruction, time of death, recreating the path of projectiles.5-Providing exculpatory evidence: The forensic science does not only help the convict the guilty the forensic evidence is used to

#### -CHALLENGE THE FALSE CONFESSIONS

#### -REVEAL THE MISTAKES IN INVESTIGATION

#### -REOPEN THE COLD CASES

6-Supporting law enforcement investigations: The forensic science is integral to supporting the ongoing criminal investigation. Linking multiple crimes, geographical profiling, victimology,7-Courtroom evidence and expert testimony: the forensic scientists testify as expert witnesses the scientist may be called to testify about the evidence they collected, analysed and interpreted.

It also establishing the credibility of evidence.

8-Enhancing investigation efficiency: with the rapid advancements in the technology forensic science has made crime investigations more easy and efficient. It includes forensic database, automation and AI

9-Providing a final determination in disputed cases: the forensic science can serve as the decisive factor in cases where the evidence is otherwise circumstancial. When the witnesses are unreliable or the crime is particularly complex forensic analysis often provides the concrete proof necessary to confirm or deny the involvement of suspect in the crime.

#### HOW THE JUDICIAL SYSTEM OF INDIA SEES FORENSIC SCIENCE

In india, the judicial system views the forensic science as a important factor as it helps the judicial body to evaluate the cases wheather civil or criminal it also helps the courts to find out the wrongdoer who has committed the offense. The legal recognition in indian evidence act 1972, now named as Bhartiya suraksha sanhita and Bhartiya nagarik suraksha sanhita 2023.

The judicial scrutiny of forensic evidence- the indian courts apply the '**Daubert Standard**' a standard for the admissibility of expert testimony which is used in US in some cases ensuring That the method of forensic science is crucial to determine the full case which is pending before the court.

#### CASE LAW

#### NITISH KUMAR V. STATE OF BIHAR 2019

In this case it was very difficult to find out the person guilty because only a small portion of the palm with finger was left unburned and rest of the body was destroyed but with the help of the forensic science DNA test was conducted and it helped in identifying and recognizing the body by matching the DNA with the parents this also helps High Court of Delhi to evaluate the case.

#### MADAN GOPAL KAKKAD V. NAVAL DUBEJ

The supreme court held that an expert's opinion becomes the opinion of the court once it is examined and corroborated by the court with other evidence

#### SENTHIL V. STATE

The court held that a forensic report is not admissible as evidence unless it is supported by

other evidence.

#### ARIF V. REGISTRAR, SUPREME COURT OF INDIA

The supreme court of india emphasized the importance of medical and DNA examination in rape cases the court also noted that the prosecution should not decline to produce DNA evidence when it is available.

#### STATE OF HIMACHAL PRADESH V. JAI LAL AND OTHERS

A landmark supreme court judgement that emphasized the need for caution when dealing with expert opinions the court stressed that the experts are there to assist judges.

#### **CONCLUSION**

The forensic science plays a very important role in indian criminal justice system by providing reliability, scientific methods to solve the cases establish facts and ensure justice as a vital component of investigations. It further helps in providing the justice to the victim and to victim's family so that they can believe that indian judicial system can serve justice to all without any delay. It helps to maintain relationship between suspect and victim which make easier for the court to pass the order in particular case. Under this there are many methods which can be used by the forensic experts to get the evidence such methods are DNA profiling, fingerprinting, toxicology, digital forensics and many more. As a forensic science continues to develop its role in criminal justice system is expected to become even more significant ensuring that the justice is not only swift but also accurate fair and based on solid scientific evidence.

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