

Foreign Science vis-à-vis Crime Investigation

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ABSTRACT: *The system relating to technology and science application in criminal detection and examination and discharging of justice is not recently uncovered in India. Forensic science in the area of criminal justice is now making a primary contribution by providing evidence that could help establish the malfeasance of the suspect. Directly opposed to what is broadcast on TV in several "Crime Investigating Shows," forensic science needs greater comprehension and is complicated when demonstrating to the bench, especially if not from a science context. Because of the scientist's cluelessness or the evidence portrayed is contradictory, when a case declines in the courtroom, it increases the risk of inability to adhere to justice. Forensic Science addresses the application of the knowledge and techniques of various areas of science in the legal arena. This paper is a comprehensive study towards forensic science.*

KEYWORDS: *Science, Forensic Science, Investigation, Evidences, Crime, Criminalistics.*

INTRODUCTION

Forensic science, also alluded to as "criminalistics," was initially established by individuals who learned strategies that identify facts and methods of comparison, and those who recognized the necessity to combine these principles with the judicial system.¹ Forensic science incorporates the interpretation of science into the explanation and execution of legislation. It is essential to remember the fact that forensic science as well as law, both are two distinct divisions and examining officials are also distinct from scientists working in forensic field.

Having considered how crime situations are portrayed on film, forensic scientists do not confront and arrest perpetrators, and do not generally examine locations where the crime was undertaken. By applying the methods of science and the logic of logical research, forensic science depends on many backgrounds to re-establish "who, what, where, when and how" with respect to accidents. The main duties of a forensic scientist are to analyze the material evidence discovered, analyze the reports and give testimony inside court.

In resolving matters, whether of a criminal or civil nature, this division holds a significant importance through its function. Forensic scientists help to evaluate the rationales that caused death, identify perpetrators who executed crimes, identify inscriptions of bodies, taking in loop electronic communication established, locate internet forgery and identification regarding theft and reconstruct incident related scenario.²

DISCUSSION

Definition of Forensic Science

Science is not obliged to provide eternal remedies entirely curtailing crime from its implementation, but it plays an impactful function in tracing instances that have occurred in a crime in an accurate and rational manner. Forensic science can be understood as the study and application of science to matters concerning law. The colossus between science and law creates and establishes latest ways and methodologies to shed light on reality.

The articulation "Forensic Science" can be perceived as the utilization of science to react to inquiries of lawful area. More precisely, when traces or evidences are gathered from place where wrongdoing took its last shape and inspected by the criminologist researchers as an essential piece of examination utilizing a few techniques and gear to break down those confirmations.

¹ www.slideshare.com, *An Introduction to Forensic Science*

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file:///C:/Users/admin%205/Downloads/Importance%20of%20Forensic%20Science%20in%20Law%20E2%80%93%20A%20Study%20E2%80%93%20Scholararticles.html

Scope of Forensic Science

Forensic science incorporates the basis of the philosophy and processes of all traditional sciences which includes biology, physics and chemistry. In last few years, moreover, it has formed its very own categories in terms of present status, including fingerprints, anthropometry, crime scene investigation, track marks, inspection of disputed documents, and forensic ballistics. These unique divisions are set down by Forensic Science. It is kind of assortment of related subjects that involves several categories of training used for examining scenes where crime is executed and collecting facts that can be utilized for the establishing crime in a court of law trial.

Key developments have recently been made in the brain fingerprinting unit, serology, criminal surveillance, narco-analysis, analysis of voice, etc. As which is already been mentioned, forensic science is sometimes alluded to as a generic term for criminalistics. Both expressions protect a large range of behaviours. Forensic science includes, in a larger sense, forensic medicine, dentistry, anatomy, psychiatry, toxicology, analysis of records and arms, device marks, and fingerprint analysis, as well as criminalistics.

Forensic science is the application of almost all scientific knowledge in criminal, civil and social environments to some possible degree and acts as a critical and qualified tool that renders it feasibility to dispense justice. It tries to build all the principles of science in a way that solves legal issues. Forensic science is also a widely advanced forensic technique in the sense of criminal and civil cases and is an important element of the criminal justice system, addressing all applicable case inquiries. All well-established techniques are included in its realm, specifically fingerprint analysis, DNA analysis, explosives and ballistics, weapons, culture, etc.

Legal Statutes involving Forensic Science

Forensic practitioners are mostly connected with recording, analysing and delivering evidence from scene of crime to the court where related proceeding is conducted. Indian law treats forensic scientists as experts that offer due material information in the execution of justice. Since there exist no specific legal statute for forensic science in India, provisions laid down play an important role concerning forensic evidence in certain criminal laws.

The moment, court has to draw a decision on an aspect of knowledge or the detection of fingerprints, the views of professionally qualified persons in the scientific field or the verification of handwriting or fingerprinting are the facts that could be relevant. Such people are referred to as experts under The Indian Evidence Act 1872.

Criminal Procedural Code allows a forensic scientist approval so to retrieve artifacts to examine them. Section 53 of the Code requires the evaluation at the application of the police officials of the person accused by the healthcare professional if there is a rational cause to believe that the review of a person will contain evidence of the offence. In the event of rape, equal authority shall be provided to the physician.

A forensic examination of suspicious specimens is also stated in the Prevention of Terrorism Act, 2002. With respect to acquire a collection of handwriting, fingerprints, footprint pictures, photographs, blood, saliva, semen, hair, the voice of a convicted individual, a reasonable offender involved in a crime, it is established that if a police investigator demands the Court to do so for written evidences, it is legally enforceable for the court to grant sample collection orders for forensic analysis.

Branches of Forensic Science

1. Criminalistics³

The biggest worry and point of consideration of this category of science was the discovery, identification, individual autonomy and examination of evidences physically present using the methods and guidelines of natural science in the domain of legal nature. It involves study of trace back evidence such as glass, soil, hair,

³ <https://www.forensicscolleges.com/blog/resources/what-is-criminalistics>

fibers, blood, and physiological fluids such as semen, saliva, urine, etc., and replication of occurrences is conducted on the foundation of collected evidence of material nature. Various forensics experts expanded differently on the range of the field. Some include the study of markings of arms and instruments and the records challenged as part of criminalistics.

2. Forensic Odontology⁴

Odontology is regarded as a "scientific understanding of the structure and disorders of teeth, in particular to identify individuals and to help investigate and resolve crimes.

3. Forensic Toxicology⁵

Toxicology is "a technique that interacts with toxins and their impact and the issues involved." Chemicals legally approved with the potential for mishandling are known to be controlled compounds. Illicit drugs such as cocaine or heroin and drugs that are issued on prescription such as oxycodone are involved in this. Comprehending and tracking these controlled drugs serves a major role in assisting law enforcement authorities combat substance addiction and drug-based violence.

4. Impression and Pattern Evidence

In reference to any impression, deviation is seen as evidence created when two articles with sufficient intensity come into contact against each other's to produce an "impression." Under its regulation, a two-dimensional anticipation such as fingerprints or a three-dimensional one like the indications on a bullet may be recognized.

5. Ballistics⁶

Ballistics is a forensic science involving motion, action, motion, angular motion and projectile impact, such as bullets, rockets, missiles, bombs, etc. In fact, ballistics have been used in criminal trials. To accurately grasp, examining the bullet obtained from a scene of the violence could show the type of gun that was involved to shot it and whether it has other violence from the side in the past. Currently, the ballistic specifics are recorded in a broad repository that law enforcement agencies around the world can access.

6. Forensic Anthropology⁷

By studying wounded human specimens or skeletons, the branch exclusively examines concerns that help to assess gender, height, age and ethnicity. It also generates estimate. Moment of death in the image by identifying and examining some injuries. These findings provide authorities with valuable insights through victim identification, notably when corpses are in unrecognizable positions. Descriptor of footsteps or shoe-print proof can also be used to assess the association with the height of individuals.

CONCLUSION

In the old country, there was a lack of structured forensic procedure that helped offenders escape penalties. At the stage, police investigations and prosecutions concentrated on confessions by putting force and witness testimony. It was universally agreed that medical and forensic evidence plays a major role in the derivation of rational inference by the courts. Nevertheless, ancient protocols represented many explanations of strategies that exposed the principles currently being produced in forensic science.

In today's age, forensic science is also an advanced investigative methodology used in civil and criminal investigations. It has the competence to respond to major matters and constitutes a vital part of the criminal

⁴ <https://www.sciencedirect.com/topics/medicine-and-dentistry/forensic-odontology>

⁵ <https://www.springer.com/journal/11419>

⁶ <https://www.britannica.com/science/ballistics>

⁷ www.slideshare.com, *An Introduction to Forensic Science*

justice system. Labs were developed by the government at regional and federal level to facilitate police, courts and others during the investigation or review process as needed.

All in all, forensic science is a field and with each moving day appears fascinating and changing as new technical changes faster than ever and beyond one's thought capability, just as any time the new aspects of crime also emerge. In order to settle the current lawsuits, testing bodies such as International Forensic Sciences (IFS) and the Central Forensic Science Laboratory (CBI) are a kind of replacement. The reasoning backing it is that approx. inside the country, 30 million criminal cases are on delay.

It is a moment to enable and include trained medical professionals to carry out medical legal work and the atmosphere in the courts should be consistent with the medical witness in parallel to it. Criminals also leave evidence or receive it unintentionally at scenes of crime performance. The capacity to interpret facts is constantly improving, which in many legal proceedings, priority is given. It is introduced to juries and judges by expert observers and enables them to decide conflicts.

