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Role of Forensic Science in Crime

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ABSTRACT:

Forensic science plays an important role in the criminal investigation of a case. Forensic science uses different tools and techniques at crime scenes to find out the truth. The results of forensics related to the crime are mentioned in the form of a report in detail and the forensic report is admissible under section 45 of the Evidence Act. In this article, we will discuss the importance of science or forensics in the field of law, what is the role of forensics in criminology and victimology, its importance, and the different types and provisions related to forensic science under law.

INTRODUCTION:

The concept of forensic science came into play in the early 20th century. The growth of forensic science continued till the end of the 20th century and expanded in the 21st century.¹ Many forensic infrastructures were built in the age of the 20th century to absolve the crime², it was very difficult for our administration to solve the crime without any scientific method or technology. It takes ages to solve the crime, and the result was also not reliable. Sometimes the innocent people got punished due to lack of evidence, and the guilty one was released. Then, the concept of forensic science came, and it helped a lot to solve the crime, it brought speed to the administration of justice with reliability. However, there is still a need to increase the capacity of forensic science with the help of advanced technology, scientific methods, and infrastructure because the advancement of forensic science does not correspond to the increasing workload of criminal cases. In this article, we are going to study about what is forensic science, its role in law administration, and problems with the help of decided cases.

Keywords: Forensic science, criminology, victimology, evidentiary value and examination.

¹ Doaj, <https://doaj.org/article/63e6c6dbf4b4437ab4c287e3ef12981c>, (last visited Oct. 30, 2023).

² Prachi Kathane, Anshu Singh, J.R. Gaur, Kewal Krishan, *The development, status, and future of forensics in India*, SCIENCE DIRECT, (12 October 2023, 8:00 PM), [The development, status, and future of forensics in India - ScienceDirect](#)

What is forensic science and its role in criminology?:

The word “forensic” came into play from the Latin word “forensic” which means “open in court” or “public”³⁴. Forensic science is a type of science that helps in solving criminal and civil cases with its scientific methods and technologies. The scientific methods and technologies, including other methods such as physics, chemistry, and biology, help in the identification of the nature of crime and crime. Forensic science is the interaction of two different worlds, science and law. The law demands evidence for the conviction and forensic science brings physical evidence. Forensic science collects physical evidence from the scene of the crime, processes it with scientific methods and technologies, and then, analyses it. Sometimes, it gives testimony in front of the court of law. The court of law accepts scientific evidence in cases of rape, drug, report of dowry death and much other evidence such as blood splatter, DNA, fingerprints, ballistics, autopsy, and body fluids recovers from the crime scene⁵.

Let us discuss a few important terms of forensic science which are discussed below:

Toxicology:

This field of forensic science examines the poison, toxic, drugs, and alcohol rates in the case of road accidents, poisoning, etc⁶.

Fingerprints:

As we know every person has their unique finger impression. The finger impression of one person never matches that of another person. So, this field of science helps in detecting the suspect with the help of fingerprints⁷.

³ McEvoy, K., Mallinder, L. and Bryson, A. (2022) “Lawyers, Transitional Justice, and Dealing with the Past,” in *Lawyers in Conflict and Transition*. Cambridge: Cambridge University Press (Cambridge Studies in Law and Society), pp. 228–297. doi: 10.1017/9781139016544.007.

⁴ apps.dtic.mil, <https://apps.dtic.mil/sti/pdfs/ADA439576.pdf>, (last visited Oct. 11, 2023).

⁵ pressbooks, <https://pressbooks.bccampus.ca/criminalinvestigation/chapter/chapter-10-forensic-sciences/>, (last visited Oct. 11, 2023).

⁶ *Id.*, at 1083.

⁷ *Id.*, at 1084.

Ballistics:

This field of science helps in detecting the evidence related to bullets, bombs, and missiles with the help of detecting their speed, direction, and effect⁸.

DNA:

This branch of science detects one person's genes to another. It is used mostly in murder cases as well as custody cases and also in the detection of parental status⁹.

Anthropometry:

This branch of science helps in detecting the age of the body and it is used to detect the time of death and age of the person with the help of bones of the body¹⁰.

Extent of Forensic Science:

Forensic Science plays an important role in our judicial system by helping in criminal investigations such as:

1. Forensic science helps in the understanding of practical and scientific terms.
2. Forensic science helps in preparation for the arguments. (autopsy report and other forensic reports that help the advocate to argue in court).
3. Forensic reports help in the cross-examination of the witnesses. As an illustration opinions of medical experts and forensic experts.
4. Forensic science helps in the probe of a crime scene.

Admissibility of expert's opinions under law:

Several convictions have occurred in our country based on expert opinions which are as follows:

Section 45 of The Evidence Act, 1872

This section talks about the opinion of experts, according to this section when the court needs any suggestion on the point of:

⁸ *Id*, at 1084.

⁹ *Id*, at 1084.

¹⁰ *Id*, at 1084.

- (a) Foreign law, or
- (b) Science
- (c) Art
- (d) As to identify the finger impression or handwriting

Then, the opinion of that person who is skilled in that field are relevant fact under this section¹¹.

Section 45 A:

This section was inserted in 2009 by the Information Technology Amendment Act, of 2008. According to this section the opinion of the expert of electronic evidence in section 79A of the IT Act,2000 is relevant in the eyes of the law when the court needs to form an opinion related to any matter such as information transmitted or stored in any computer resources or any other electronic form.¹²

Decided cases:

- (a) In the case of Ram Narain vs. State of Uttar Pradesh, AIR 1973 SC 2200, SC upheld the conviction of the accused in the charge of kidnapping, based on evidence from experts that the letter through which ransom was demanded was in the handwriting of the accused.¹³
- (b) In the case of G.A. Naik vs. the State of Goa, AIR 1968 Goa 72, the court held that the medical evidence was more trustworthy, and it was clear that the eyewitness didn't see the incident.¹⁴
- (c) In the case of Shah Nawaz vs. State of U.P., AIR 2011 SC 3107, the court held that in the case of determination of the age of the juvenile in the absence of school and birth certificate, the medical opinion should be preferred.¹⁵

Section 293 of Criminal Procedure Code, 1973:¹⁶

According to this section, the experts mentioned below:

- (a) Any chemical examiner or assistant

¹¹ The Indian Evidence Act, 1872, s 45, No. 1, Acts of Parliament, 1872 (India).

¹² The Indian Evidence Act, 1872, s 45A, No. 1, Acts of Parliament, 1872 (India).

¹³ Ram Narain vs. State of Uttar Pradesh, AIR 1973 SC 2200

¹⁴ G.A. Naik vs. the State of Goa, AIR 1968

¹⁵ Shah Nawaz vs. State of U.P., AIR 2011 SC 3107

¹⁶ The Criminal Procedure Code, 1973, s 293, No. 2, Acts of Parliament, 1973 (India)

- (b) The chief controller of explosives
- (c) Director of the Fingerprint Bureau
- (d) The director, caffeine Institute, Bombay
- (e) The director, assistant, or deputy director of a central or state forensic science laboratory
- (f) Any other government scientific expert¹⁷

Are duly recognized as government scientific experts and their reports or testimony are receivable or relevant under the eyes of law. The court has discretion to summon the experts under this section. However, when it is necessary to do so for the ends of justice¹⁸.

In the case of *Bhupender Singh vs. the State of Punjab*, (1998) 3 SCC 513, The SC held that, in a murder case, the chemical examiner report along with the expert opinion is sufficient to convict the accused person¹⁹.

Examination of Accused Person:

The Criminal Procedure Code deals with the examination of an accused person to recover evidence against the accused by a medical expert and the report of a medical expert is admissible as evidence against the accused. The sections dealing with the examination of the accused are as follows.

Section 53:

Under this section, the accused person is examined by a medical expert at the request of a police officer. The examination includes blood stains, semen, swabs in case of sexual offenses, hair samples, sweat, fingernail clipping, and any other test that a medical expert thinks necessary.²⁰

Section 53A:

Under this section, the accused person who is under the charge of rape or attempting to rape is examined by a medical expert. In the *Nirbhaya Case*, the court held that DNA as part of forensic

¹⁷ Anjali Dhingra, Expert witnesses under the Indian Evidence Act, 1872, (Oct. 30, 2023, 9:29 PM), [blog.ipleaders](https://blog.ipleaders.in/expert-witnesses-under-the-indian-evidence-act-1872/), <https://blog.ipleaders.in/expert-witnesses-under-the-indian-evidence-act-1872/>

¹⁸ The Criminal Procedure Code, 1973, s 53, No. 2, Acts of Parliament, 1973 (India)

¹⁹ *Bhupender Singh vs. the State of Punjab*

²⁰ [writinglaw](https://www.writinglaw.com/arrest-explained-with-cases-and-11-supreme-court-guidelines/), <https://www.writinglaw.com/arrest-explained-with-cases-and-11-supreme-court-guidelines/>, (last visited Oct. 11, 2023).

science not only helps in investigation but also provides actual information about the identification of criminals.²¹

Section 54:

Under this section, the examination of the arrested person is done by the medical expert, and if the arrested person is female, then, the examination is done under the supervision of a female expert.²²

Forensic Science in Victimology:

Forensic victimology means an examination of the victim by scientific method to discover the truth which helps in the preliminary investigation as well as the court to form an opinion. The criminal procedure code talks about the medical examination of a victim under section 164A. This section says that when the offense of charge of committing rape or attempt to rape is under investigation, then, the victim shall be examined by the registered medical expert.²³

Downfalls in Forensic Investigation

Workload: In India, there are only seven central laboratories and many other private laboratories under which 4500 people are working and 3000 among them are to assist their head. The criminal cases have been increasing day by day and the rate of forensic laboratories has remained the same, which overburdened the forensic laboratories.²⁴

Lack of advancement in laboratories:

In our country, most forensic laboratories lack technology and advanced infrastructure due to which approx. 318 convicts were released by the court who were convicted on faulty DNA reports which affected the reliability of the opinion of experts.²⁵

²¹ The Criminal Procedure Code, 1973, s 53A, No. 2, Acts of Parliament, 1973 (India)

²² The Criminal Procedure Code, 1973, s 54, No. 2, Acts of Parliament, 1973 (India)

²³ booksite.elsevier,

https://booksite.elsevier.com/samplechapters/9780123740892/Sample_Chapters/02~Chapter_1.pdf, (last visited Oct. 11, 2023).

²⁴ Sweekruthi K Varsha Gowda DHNS, The missing piece: Forensics in criminal investigation, (Oct. 30, 2023, 9:29 PM), deccanherald, <https://www.deccanherald.com/india/the-missing-piece-forensics-in-criminal-investigation-1146042.html>

²⁵ *Id.*, at 1088.

Lack of Awareness:

People are not well aware of the education of forensic science. Only a few universities are providing courses in forensic science, which is also the reason for the downfall of forensic science. The government should provide diplomas in different branches of forensic science.

Inaccuracy in procedure:

The Procedure of forensic science is not accurate; people can easily temper with the evidence at the crime scene. For instance, in a murder case, people can easily remove their footprints, fingerprints, and blood stains and trap another person in their place. So, in that case, the opinion of experts is pointless.

Suggestions:

There are a few suggestions that may help in removing the downfalls in forensic science in our country which are as follows:

1. Provide forensic science quality education in the universities and also training at institutions.
2. Government shall open, more and more vacancies in the field of forensic science
3. Provide quality laboratories and infrastructure in forensic
4. Forensic laboratories shall be opened in each district.
5. Program shall be started by the government to aware the students about the education of forensic science.
6. In, criminal cases, the investigation of the crime scene shall be done as soon as possible which may reduce the possibility of tampering of evidence.
7. Aware people about the protocols and guidelines of the forensic procedure.

CONCLUSION:

For the foregoing discussion, it is necessary to build quality forensic laboratories. As we know forensic experts can turn the tables on the accused person. So, immediate reform shall be done in the field of forensic science and the special law regarding forensic science should be enforced as soon as possible which shall aware the people about forensic education and help in criminal investigation, because our criminal justice is mostly dependent on the forensic expert and its opinion.

**References:**

1. <https://www.sciencedirect.com/science/article/pii/S2665910721000463?via%3Dihub>
2. The Criminal Procedure Code, 1973 (2 of 1974), ss 53,53A,54,164A.

The Indian Evidence Act, 1872 (1 of 1872), s 45,45A