



EXAMINING THE ROLE AND IMPACT OF FORENSIC SCIENCE EVIDENCES FOR THE INVESTIGATIVE-SOLUTION OF CRIMES

Deepali Shivaji Bhalshankar¹ & Shilparani S. Dongre², Ph.D.

¹Researcher

²Research Guide, Assistant Professor, V.N. Patil Law College Aurangabad

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Abstract

It is noticed that, forensic science includes the use of physical and natural sciences for the investigation of civil and criminal cases. This is used for various purposes such as inspecting criminal crimes such as rape, murder, honour killing, frauds and drug tracking and civil cases as wilfully destructing the natural environment. This includes using modern science and technologies such as DNA testing, micro-observations, fingerprint profiling, and Narco-test so that the reality related to crime and suspect are identified properly. The study knows that as per Indian Evidence Act (IEA) 1872, evidences and proofs have been classified into various parts such as Primary Evidence, Oral Evidence, Documentary Evidence, Video Evidence, Audio Evidence, Secondary evidence, and Judicial Evidence that play a crucial role in the investigation process. Present research study found that forensic investigations and methods are highly needful as it tracks the implications of the illegitimate substances and recognizes the residues by reconstructing the crime incidence again. It is noticed that, Forensic investigations and methods also help in identifying the criminal and collecting information about the reasons of crime.

Keywords: Forensic, multivariate, profiling, narco-test, illegitimate etc.



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Introduction

It is realised that, forensic science includes the use of advanced physical and natural sciences for the investigation of civil and criminal cases. It is used for various purposes such as investigating criminal cases, such as rape, murder, attack, fraud, and drug tracking and civil cases like, wilfully or unwilfully destructing the natural environment. The involvement of forensic method systems of investigations takes a crucial place in the investigation procedure and provides practical solutions to the existing criminal situation. While thinking about the role and impact of forensic evidence in the criminal justice delivery system, it is used as a crucial

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instrument to detect crimes and criminals so that cases are solved as per sure authentic evidence and no any innocent is punished. The forensic investigation methods and evidence are approved by the governing bodies of different nations such as India, Colorado, The United States of America, French, Germany, Canada, and Australia. For example, the Automated Fingerprint Identification System (AFIS) is used by the Federal Bureau of Investigation (FBI), the US to investigate various criminal cases by using most advanced technologies. The evidences and proofs that are collected, examined, re-examined, and produced by using various Forensic techniques are more readily acceptable by the Courts of Law. Forensic evidences are collected from the experts and holds more authenticity and credibility to be used as proofs in criminal cases (Mc-Ewen 2010). While understanding the role and impact of forensic evidences in the criminal justice delivery system in India and Maharashtra, it is governed by Indian Forensic Organization (IFO) which carries out criminal forensic investigations in India. However, the forensic investigations that are performed by the forensic science methods are condemned by the Supreme Court of India as under Articles 20 (3) of the Indian Constitution. The Article ensures Fundamental Rights against self-incrimination of the criminals and the application of the forensic science investigation process offends the Fundamental Rights of the individual (Shali 2018). Thus, the use of forensic investigation methods gets restricted in India as many complications are associated with the acceptance of forensic evidence. The present article provides relevant information related to the criminal justice system and the concept of forensic science. The article also provides relevant information related to the role and impact of forensic evidence and legal provisions supporting the criminal investigation system in India.

Review of Literature:

Narejo & Avais, (2012)

In their Article *Understanding the Concept of Criminalistics/Forensic Science*, re-examined that forensic science or criminalistics is the application of scientific methods in criminal laws. It includes applying knowledge, conjecture and technology in legal crime matters. Forensic Science includes using very advanced science and technology such as DNA profiling, chemical experiments, computer science, and engineering for the criminal investigation process by the police. For instance, in a case, physics is used to identify the outline structure of the blood scatter, whereas biology is used identity to the imprints of the skepticized, and chemistry is used to recognize the chemical composition of drugs. However, the use of forensic science in a criminal investigation in the Indian criminal justice system is very limited and underestimated. Early Forensic science was primarily used by Sir William Herschel in the

form of fingerprinting to identify the suspects of the crime. The fingerprint evidences were firstly accepted by the Court of Argentina in the 1890 decade and then by English Court in the year 1902. Forensic science is a part of the Indian criminal justice system since ancient times for inspecting the cases and verifying the crimes. At last, they argue that, Forensic science helps the investigators to find evidences against the criminals and strengthen the Indian Legal system by providing authentic proofs to the police system of our country.

Shali (2018),

In his Article, *Overview of the Criminal Justice System*, stated that the criminal justice system is defined as a set of rules or regulations that safeguards the rights of the social communities and individuals. It is structured by the governing body of India and authorized institution to organize the legal law structure. It helps to society to respond against challenging and distressing actions and behaviors appropriately. The major administrative part of the criminal justice system in India is handled by the police system, court system, prosecution, and prisons. They form the pillars of the criminal justice process and do different activities such as prevention, investigation, detection, trial, adjudication, and punishment to criminals in society. The court system forms an integral part of the criminal justice process that fixes the culpability of the criminal. The system of determining the criminality of the offender is very complex and supported by evidence, proof and facts. The police administration plays a crucial role in investigating the crime and procuring evidences against the offender. Hence, due to the very effective investigation and maintenance of law and order by the criminal justice process, there is a provision of a safe and peaceful society. Under the Indian Evidence Act (IEA) 1872, evidences have been classified into different categories such as Oral Evidence, in which the oral statements or arguments of the individuals who have witnessed the crime scene either by seeing or hearing is accepted under the Section 60 of IEA 1872. Documentary Evidences are another proof that is given to the court for more investigation purposes under the section 3 of IEA 1872. Primary evidences are the highest graded evidences under the section 62 of IEA, in which the evidences provide vital facts about the incident through documented evidences. Secondary Evidences are considered to be inferior proofs under Section 63 of IEA. It is provided to the court when there are no primary evidences. Real Evidences are the physical or material evidences those are produced to the court by inspecting the physical object at the crime scene or time. Hearsay evidences are the weakest evidences in which the witness has not personally seen or heard the incidence and came to know about it from a third party or person. Judicial Evidences are the evidences those are received by the court in the form of confession

made by the offender or criminal. Non-Judicial Evidences are the evidences in which the confession is made by the offender outside the court in front of any other individual. Direct evidences are the evidences directly supplied by the witness who has seen the scene of crime in the form of documents about the incident. Circumstantial Evidences or Indirect evidences provides evidence to the current case through relational facts. Thus, with the help of different evidence and proofs the court decides the criminality of the offender and summons punishments as per the cruelty of the crime.

Menaker, Campbell & Wells (2017)

In their article, *The Use of Forensic Evidence in Sexual Assault Investigations: Perceptions of Sex Crime Investigators*, argued that the scientific and technological literature of forensic science and criminalistics focuses on the scientific laboratory methods that are used to examine and investigate physical evidences collected from the spot. Forensic science and criminalistics laboratories generally provide the scientific examination of physical evidences collected from the spot, victims, and suspects.

Rana P., (2020)

The researcher in his article, *Modern Techniques in Forensic Science and Their Function in Criminal Justice System: An Overview* claimed that with the advancement of new science and technologies, the concept of forensic science is constantly changing. It includes advanced modern techniques of investigations such as liquid chromatography, internet investigations, 3D printing, DNA evaluations, and mass spectrometry for the short inspection of the facts from the crime spot police acquired physical evidences. There are various branches of forensic science such as Odontology, Biology, Anthropology, Toxicology, and Pathology. While focusing on Odontology, it includes using new scientific methods to identify the body of the victims when it is left in an unnoticeable situation. The identification of the victim is understood by examining the teeth, mouth, or body alignment. Forensic Biology includes DNA profiling in which the identification of the suspect is done through his/her hair, blood, semen, or any other body parts. Fingerprint analysis is also used to identify the suspect. Anthropology includes inspecting the cause behind the crime and time of death of the victim. It also helps to identifying victims when he/she left in an unnoticeable position and determines the age, gender, and ancestry of the skeleton. The branch Toxicology includes inspecting the victim and majorly used for investigating accidents, sexual violence, and poisoning cases. Another branch, Pathology includes examining the body of the victim after death to know the exact or factual reason of death. Hence, it can be said that forensic science is an extremely useful investigational

discipline that helps to investigating and inspecting the cases by identifying the offenders, and techniques used for doing the crime.

Jyotirmoy Adhikary, (2007)

In his Article *Role and Impact of Forensic Evidence*, examined that forensic science is one of the most essential branches of criminal justice. It includes exploring methodical and physical traces from the crime spot. It helps in identifying the crime suspect, time of the crime, and mode of the crime. It helps in investigating the different aspects of the crime and provides evidence about the victim, offender, and criminal activity. The collection of forensic evidence and the application of forensic sciences have become essential to criminal investigations process and prosecutions. Forensic evidences fulfil several roles in criminal investigations process such as proving a crime has been committed or establishing key elements of a crime, placing the suspect in contact with the victim or with the crime scene, establish the identity of persons associated with the crime, exonerating the innocent individual, corroborate a victim's testimony, assist in establishing the facts of what occurred at spot.

McEwen, (2010)

The researcher has argued in the article that, the forensic science process is used for criminal investigation purposes for extracting the evidence of various crimes, identifying the major constituents of the crime, recognizing the exact suspect, confirming the testimony of the offender, and vindicating the right innocent. It includes developing forensic databases so that criminal investigations are carried out expedite. Onwards, various organizations such as Automated Fingerprint Identification System (AFIS), Combined DNA Index System (CODIS), and National DNA Index System (NDIS) have been set up so that database related to criminals and forensic profiles are developed to perform forensic investigations are at international and national levels.

Pragati Ghosh, (2018)

The scholar in her article *Evidentiary Value of Expert Evidence under Indian Evidence Act, 1872*. argued that forensic science is included in the Indian Evidence Act 1872, and noticed as expert evidence. An expert is a person who has comprehensive learning about the present subject and the learning can be used to give right judgment concerning the criminal matter. In the matter of Pantangi Balam vs. State of Andhra Pradesh, the deceased was brutally fired and killed at gunshot by accused one and the co-accused. The witness recognized that the accuser was worn a pink shirt at the right time of the attack and confirmed that the attacker was injured when the firing was taken place. After the investigation, the police had recovered the

pink shirt which was completely stained with the blood patches. The police had taken it as a piece of basic evidence and sent it to the forensic lab for DNA testing to identify the criminal. The DNA test result that was acquired by the police along with the other evidences concluded the accuser to be guilty in the case. Hence, it can be said that forensic investigations and evidences play a crucial role in supporting investigative activities to identifying the right suspect and providing evidence for the crime.

Patel, Gautaman & Jangir, (2013)

In their Article, *Legal Provisions Supporting Criminal Investigation*, they have argued that the main purpose of forensic science system is to convert uncertainty in the case into certainty and prove the innocence or guilt of the suspecter or criminal. As per the basic survey conducted in the year 2011, the Supreme Court of India and High Court were recorded to solve major 47 cases based on basic forensic science evidences. It was also noticed that amongst all the cases, about 23.4% of the cases related to forensic science investigations were solved by the Delhi High Court. Onwards, forensic science system-based DNA analysis was used as evidence in various murder cases (4.7%) and various rape and murder cases (2.3%). The use of forensic science in the criminal investigation system helped in identifying the criminals and increased the solving propensities. Hence, the usage of forensic science evidences has increased in the Indian criminal justice process as an increasing number of judges are considering them as more authentic evidences. Forensic evidences were accredited and accepted in the case of Ramchandra Reddy vs. The state of Maharashtra when evidences were presented in the form of Brain fingerprinting, lie detector test, and Narco analysis. Concerning the case, the Court held a special hearing in which SIT was allowed to use scientific tests upon the main accused Abdul Telgi by the charges of fake stamp paper scam. However, the authenticity of the forensic evidences was questioned on account of violation of Article 20 (3) of the Indian Constitution which protects the offender against forcible tests. But the court provided that the present suspect has no legal rights to object DNA investigations and he must co-operate with the investigation process. Hence, it can be said that, forensic investigation system and evidences play a very crucial role in investigating various cases and resolving them with high accuracy. The Supreme Court provided that the scientific evidences those are provided in the form of the P-300 test and polygraph evaluation were indecisive and unconvincing. Hence, the evidences produced on this scientific investigational basis could not be included in judgment purposes. The Supreme Court of India also restricted the compulsory

usage of the forensic science investigational techniques in criminal cases by making it an unconstitutional action.

Findings and Discussion

On the bases of above-discussed literature of review facts and research, it can be argued that forensic science process is technology-based investigation method that supports in resolving various critical criminal cases scientifically, logically and rationally. The various forensic investigative systems such as the Narco test, DNA test, P-300 test, and polygraph evaluation test provide evidences for crime and suspect cases. The research examined that under the Indian Evidence Act (IEA) 1872, the evidences have been classified into various parts such as oral evidences, documentary evidences, primary evidences, secondary evidences and judicial evidences those play a crucial role in the investigation process. It is also noticed that the usage of forensic science techniques and methods of investigations and evidences of the crime have limitations in India. It is because of the restrictions of the court of law on account of Articles 20 (3) of the Indian Constitution. The Article provides the protection to the offender against forcible tests is unconstitutional. The research paper re-examined that forensic investigations and methods are highly helpful as it tracks the implications of the illegitimate substances and recognizes the residues by reconstructing the crime incident again. Forensic science investigations also help in identifying the victims and acquiring knowledge about the reasons behind the crime. Hence, it can be argued that forensic science techniques and methods are highly crucial for the investigation of criminal and civil cases and solve them very effectively.

Conclusion

As per the basis of above-discussed arguments, it can be concluded that forensic science is a very useful investigational process or method that uses advanced technologies such as DNA testing, fingerprint profiling, and Narco test etc. hence, the facts related to crime and suspects are identified. It seems that the different countries such as Canada, The United States of America and Australia have adopted forensic science investigation technologies and methods in the investigation of a crime and find evidences against offenders in the criminal and civil cases. Hence, the governing bodies of different countries have established various forensic science organizations such as Automated Fingerprint Identification System (AFIS), Combined DNA Index System (CODIS), and National DNA Index System (NDIS) to make the databases and criminal investigations. The researcher has examined the facts related to the role and impact of forensic evidences in the criminal justice process in Maharashtra and concluded that

the use of forensic science investigation is limited due to the Articles 20 (3) of the Indian Constitution. Present article protects the offenders against forcible testimonies or tests. Forcible tests against the offenders are not constitutional. It is also found that some rights given by the Supreme Court of India protect the rights of the individual and pronounces him/her to be guilt-free. Criminal Laws also presume that an individual must be considered as an innocent individual until the time the crime is proofed by the law system. Hence, the Indian government and system must promote scientific knowledge, forensic science, humanism, and enquire about the different spheres for the speedy resolution of various criminal cases in India.

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