

Technological Innovations in Forensic Science as a Legal Aid

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Abstract

With the every passing dawn, there had been revolutions in legal aid technologies. Moderation should be preserved to main the dignity of the legal aid profession. But, technological advancements challenge the ideology of moderation of legal aid profession too. Forensic science deals with the knowledge and skills which is useful for criminal investigation. Technical skills are applied to identify the criminal offender. Forensic science is obligatory for accomplishing criminal investigation. It is important to forego the traditional and orthodoxy ways involved in the process of forensic study and to adopt the scientific method, merit based recruitment and involving skilled professionals in the forensic laboratories to study the criminal cases. DNA profiling is one of the latest growing and most reliable modes of investigation in forensic science. Brain fingerprinting is the latest computer technology to recognize electrical brain wave responses. Narco analysis test also plays a major role in forensic science. It is a method which is used to cross examines the suspect of criminal investigation.

This paper lays down how technological advancements have progressed the growth of forensic science and its study. These advancements have introduced innovating ways to study criminal investigation.

This research discusses the judgment of empirical court order from Rajiv Gandhi Murder Case and Selvi and Ors. v. State of Karnataka and Anr.

The exploration concludes the technological advancements in forensic science as a legal aid provided to citizens by the government. It discusses the various fields of forensic science where technological advancements have helped in solving the criminal investigation. Forensic science with its technological innovations as a legal aid is not only dealing with murders but also cyber-crimes. Forensic science has seen has many modern breakthroughs. 3D imaging is the latest technology involved. The daily innovations on forensic science make it an important and exciting field of work and research.

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Introduction

With every passing dawn, there had been revolution in legal aid technologies. The advancement of technology has effected in legal aid profession. Forensic science deals with knowledge and skills which is useful for criminal investigation. There is steady growth rate in technology and skill development in forensic science. As forensic science deals with knowledge and skills, it is very important to forgo the traditional and orthodox ways involved in forensic study. There has been great technological development in the area of forensic science, as there has been continues development in DNA profiling, brain fingerprinting, Narco analysis test as it is a method used to cross examine the suspect of criminal examination. Technological advancement has progress the growth of forensic science and its study and such advancements have introduced innovative ways to study criminal investigation. The various fields of forensic science were there has been technological advancement has helped law and citizens of India in providing legal aid.

DNA Profiling

Forensic science has been great advancement in the application of DNA profiling, which has really helped in providing criminal justice. It has now become more reliable, which has really helped in providing criminal justice. It has now become more reliable. Before development in technology and sciences semen and body fluid were studied. In the year 1986 first forensic application was performed. The molecules play a very reliable part in establishing the link between victims and suspects the DNA.

Brain Fingerprinting

There have been technological advancements in brain fingerprinting also; as now it is a new computer based technology which can identify the crime much more accurately and scientifically by measuring brain wave responses to certain words or may be crime related pictures on computer screen. Whenever a crime is committed, a record is directly stored in the brain. With the brain fingerprinting technology one can scientifically connect evidence from seen of crime with biologic evidences; as brain fingerprinting can measure electrical brain activity in form of words and pictures on a screen and hence reveals brain memory and encoding related multifaceted electroencephalographic response. The suspect can be proved guilty.

Narco Analysis

Narco analysis is a technique that uses barbiturates drugs. Narco analysis test has been in news in the past as new techniques are recently being discovered and tested. Narco analysis test is conducted on the man to lower his inhibitions, as he can share his feelings more freely. The nervous system of a man is interfered, hence becoming difficult for a man to lie about the crime; and hence the truth can be abstracted as the man is produced in dizziness and sleepiness. In such a state a man can answer question when rapidly asked. A person handling such a state after injecting him with sodium pentothal the drugs used cannot manipulate the answers; hence the answers are nothing but the truth. As the injecting of drugs slows down the heartbeat man lacks inhibitions.

Hence, we see certain technological developments in forensic science can lead in the finding and reconstruction the crime scene and hence helping law in providing legal aid.

Research Methodology

The data collection method is the analysis of the research papers published on the issues related to forensic study DNA profiling, brain fingerprinting and Narco analysis test. Descriptive method was used to write the research paper. The cases mentioned were studies and analyzed from manupatra.com and indiankanoon.com.

Objective

In this paper we are highlighting these main objectives-

1. Descriptive of the forensic techniques which are used in scene of crime.
2. Use and attribution of forensic techniques in the legal aid services
3. To highlight the techniques used in forensic science in the study of scene of crime

Description of Research Issues Including Socio-Legal Analysis of Problem

Socio Analysis of Problem

Forensic science plays a huge impact on society. Forensic science provides services to the society. There are convictions that are heavily based upon forensic evidences. The people now have faith on forensic science and its process. The development of DNA fingerprinting has had a huge impact on society. DNA being an identifier of a man, this as evidence had helped in convictions. With these technological advances in DNA profiling old cases have been reopened hence many accused have been proved as an innocent. With law putting faith in forensic science and forensic evidences collected the positions of forensic scientist have increased hence showing greater responsibility towards society. The moral ethics are also involved in forensic science. The evidence collected by forensic scientist acts as a life saver for a man. Therefore there has to be a systematic recruitment and professionalism should be

followed. The TV shows based on forensic science for example CID had a great impact on society. This has increased the popularity of forensic science and the justice brought by it in the common people eye.

Legal Analysis of Problem

Forensic science plays an important role in law and justice. As it deals with evidence collected from the scene of crime. It extracts the information from the evidences and answer the most important question who the suspect? As the investigation from the crime scene answers how actually the crime is committed and at what time was it committed and at what place it committed. The evidences from scene of crime confirm the location. The forensic evidence can help the reconstruct the scene of crime and reveal the identity of who committed the crime. The result of forensic investigation are presented in the court, hence plays an important role in criminal justice; as the identity of the offender can be matched with the evidences collected from scene of crime as fingerprints, footprints etc. It is only on the result of forensic evidence that the accused is proved guilty. The laws need to be amended for the use of upcoming technology and upgradation in forensic science.

Precedents and Judicial Decisions

The forensic science has a great impact in the field of judiciary system. Forensic science deals with the knowledge and skilled which is useful for criminal investigation and also makes it obligatory for accomplishing criminal investigation. With the help of forensic techniques, many criminal matters as well as civil matters are finalized by the court. There are certain landmark judgments which are given by the judiciary system which have great impact in the arena of judiciary.

In the case of *Rajiv Gandhi Murder Case*³ the alleged bravo Dhanu's DNA sample were matched by her relatives and after matching her DNA sample with them it has been proved that she was in involved in ghastly conspiracy.

RamchandraReddyandOrs. v. State Of Maharastra,⁴ in this base the Bombay high court held that there was a use of lie detector test, use of truth serum or brain fingerprinting and Narco analysis to upheld there legality. The special order was given by the court to conduct the scientific test by taking fake stamp paper including the main accused, Abdul KarimTelgi.

In the case of *DharamDeo v. State Of Uttar Pradesh*,⁵ the judgment provides the DNA as an evidence shall be used by a prosecution in the DNA related case. In this case the Supreme

³AIR 1993 SC.

⁴ 2004 ALL MR (Cri) 1704.

⁵2014 (5) SCC 509.

Court had observed “There must be a scientific investigation of the scene of crime can be done without any error”. The forensic science plays an crucial role specially in the criminal cases which are based circumstantial evidences which may further help in suspects identification for establishing the evidence of crime or a certain the accused guilty or innocent.

In the case of *Selvi and Ors.v. State Of Karnataka and Anr*,⁶ the Supreme Court upheld the decision that brain mapping and polygraph without the consent of the accused is unconstitutional.

In the *NitishKatara Murder Case*,⁷ the body of deceased victim was found a but it become difficult to identify the identity of the victim because only the small portion of one unburned palm with fingers was found so here also DNA profiling help in identifying the identity of the victim and it help the Delhi high court to uphold the conviction of the accused.

Hence, with the help of these judgments it is clear that forensic science had wider scope in the field of judiciary system. With the help of these techniques the guilty person convicted for their criminal acts and relief to the innocents.

Impact and Implications

Forensic science has evolved than just the subject of cause of death to study the criminal activity, reconstruction of crime etc. The report from the above mention report investigations are further applied to criminal law. The impact of forensic science can be studied economically, politically as well as socially.

Economic

With the machines involved forensic science now has becoming an expensive field of study and improvement also has to be done to repair the old one. Setting up of new forensic laboratories alsorequired money. Many a time’s police contract the cheapest laboratories for investigation of case. Government to at times forces the forensic scientists to cut out the prize of investigation. The justice too depends upon forensic science in, any of the cases the accused is not proved as guilty because the victim could not effort the forensic investigation. It is very important for the government as well as forensic scientist to balance the cost of investigation. In coming future, with the increasing rate of crime, it is very important for government to take measures to cut down the cost of investigation.

Social

⁶AIR 2010 SC 1974.

Forensic science has helped greatly to society as we have discussed already in the exploration. As the forensic study is gaining popularity more and more jurist believed in the investigation done by forensic scientist. DNA profiling, brain fingerprinting etc. are some of the techniques which has helped jurist and judiciary to reach to the final decision.

Political

India is currently the first country helped built Uganda's first forensic science laboratories. There was a MOU signed between Ugandan deputy speakers of the parliament Jacob Oulanyah GFSU director general Dr. J.M. Vyas. As the MOU signed between Gujarat and Uganda the forensic scientist of Gujarat will studied the Uganda's crime statistics and trained the Uganda's forensic scientists. DFS is one of the India's forensic agencies those assistant case investigation. As such as parliament attack. In the past few years the agency has trained foreign delegations of the neighboring countries.

Conclusion

Forensic science refers to the techniques of an investigation that uses scientific measures. As we have seen in the thesis that law and society are becoming dependent on forensic science after each passing day. Governments and forensic scientists are working hand in hand to make it easy for the citizens who afford forensic investigation. As science influences a man's daily life, we can easily connect it with laws. Forensics laws should be amended and are being amended to fulfill the criteria for investigation .the cost of an investigation should be cut down. With the use of forensic technology investigation it has now become easy to catch the suspects as forensic investigation entirely depends upon proves .DNA profiling,Narco analysis, brain finger printing etc. are one of the unique investigation techniques of forensic science. with the help of such techniques it has now become easy to solve the most complex cases i.e. *Rajiv Gandhi Murder Case*but, at the same time it is important to forego the orthodox and traditional ways of investigation and to jump to the latest technology as the crimes committed in today's time are far more advance.DNA profiling is a forensic technique helpful in cases which are related to paternity and civil cases. Rape, murder, dacoity etc. are criminal cases where DNA profiling is helpful .it is high time for India to introduce DNA profiling as part of a legal system .the next technique we have discussed is of Narco analysis test .the test is popular among the law and the judiciary. As Narco analysis leads to reality after the interrogation .the test proves to be one of greatest assists of the forensic investigation. Many high courts have given their judgments on the basis of Narco test interrogation for example *Ajmal Amir Kasab Case*but ,in the case of *Selvi v. State of*

Karnataka it was upheld by the SC that Narco analysis test can only be performed on the accused after his /her consent . Brain finger printing is the next developing forensic investigation. Police and government should put their best in developing and hiring the best forensic laboratories for investigation. After seeing the growth and the progress of forensic science the legal system should rely more on forensic investigation. DNA profiling and Narco analysis test should be legally accepted to be a part criminal investigation as both of the techniques has been useful in interrogations. It is important for government to hold a proper process of recruitment and should hire perfectly knowledge and skills professionals as any wrong in the investigation can lead to injustice. The forensic professionals should hold ethical as well as moral values. Forensic scientists should abide by the legal framework of the country. There should be a proper investigation agencies working under government. There has to be upgradation in the forensic technology to deal with the advance crime. Forensic evidence is valuable for successful criminal prosecution. The forensic techniques are now used by army officials to analyze presence of weapons.