PERFECT JUSTICE THROUGH THE USE OF FORENSIC SCIENCE: A MYTH OR REALITY

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"Every trial is a voyage of discovery in which truth is the quest" [1]

INTRODUCTION

The success of the administration of criminal justice depends upon the evidence produced before the courts by the investigating agencies. Evidence can be called by these agencies through various means like oral evidence, documentary evidence and evidence brought forth through the use of scientific tests. In modern times when most of the crimes are committed in secrecy there are no eyewitnesses, which can be relied upon to prove the guilt or innocence of the accused. Even in those cases where eyewitnesses are present there are inherent shortcomings such as these witnesses depose before the court their own version of facts, there is problem of memory fading because of the delay in taking of their statement coupled with the problem that many times these witness are not willing to appear before the court or they turn hostile during the trial. In such situations scientific techniques used for elucidating the evidence comes to the rescue of administration of justice. This scientific evidence is not dependent upon the testimony of the witnesses but the ability of experts to locate, collect, analyze the trace evidence from the crime scene and further produce the same as exhibits before the courts. Thus, Forensic Scientists work with physical evidence collected at scenes of crimes.[2] The scientific evidence is considered more reliable in comparison to ocular evidence because the results are demonstrable, verifiable and there is a lack of subjectivity. The reason for this is that the reliance is placed on science and there is exclusion of human intervention because of which subjectivity is negated.

When forensic evidence is produced before the Courts, the Courts face the question of admissibility[3] and reliability of such evidence. This question is very pertinent as the innocence or the guilt of the accused is based on it. There has been a trend of laying strong emphasis and reliance on forensic evidence.[4] However, in the recent past some authors have started voicing

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[1] *Ritesh Tewari* v. *State of UP* (2010) 10 SCC 677
[2] <https://www.all-about-forensic-science.com/definition-of-forensicscience.html> accessed 12 July 2023
[3] Indian Evidence Act, 1872, s 136
[4] In *Raj Kumar* v. *State of U.P.* (2014) 5 SCC 353, wherein a young girl was raped and murdered, the Court observed

concerns over the reliability of these techniques.[5] The authors in this article makes an effort to bring two opposite views to a point of convergence where on one hand we have the torch bears of justice who strongly advocate the use of forensic techniques in criminal investigation and on the other hand those who voice their concerns/ challenge about potential errors and admissibility issues regarding the outcome of these tests. This discussion is all the more important as the law has mandated the use of forensic advice in all cases punishable with more than seven years imprisonment.[6]

The article is divided into four parts. Part I is introductory in nature and explores the need of using forensic techniques in the Court of law. Part II explores the issue of admissibility of forensics evidence to see whether the procedure used by experts of forensic science meet the evidentiary standards laid down by the law and the court over the years. The focus of the article is not to question the use of Forensic Science in criminal investigation but to question the accuracy and conclusivity of the results in determining the guilt/ innocence of the accused on the basis of these techniques. In Part III of the article case study method is used to explore the cases in which forensic errors have been discovered. In this part the authors analyze Indian cases where the accused were convicted on the basis of reliance on forensic evidence by the lower courts but were acquitted by the higher Courts because of the concern on the use and outcome of the technique used. The authors also analyze some cases of other jurisdictions where conviction was based on the use of forensic evidence and subsequently those who were wrongfully convicted were exonerated. Part IV of the article is the concluding part.

NEED FOR FORENSIC SCIENCE

Forensic Science is a very broad field of study. It is an amalgamation of various disciplines such as anthropology, medicine, physics, engineering, toxicology, statistics etc. "Forensic science, may be defined as the application of the methods of the natural and physical sciences to matters of criminal and civil law."[7] According to the California Criminalistics Institute, "Forensic Science is the application of the methods and techniques of the basic sciences to legal issues."

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that the identity of the accused was affirmed because of the DNA report. In *Anil Alias Anthony Arikswawy Joseph* v. *State of Maharashtra* (2014) 4 SCC 69, wherein an unnatural offence was committed against a 10-year-old boy, the guilt was established with the help of a DNA report. In *Shanker @ Gauri Shankar* v. *State of Tamil Nadu* (1994) 4 SCC 478, where six people were murdered one of the victim's body was identified on the basis of skull superimposition technique.

[5] Tamara F. Lawson, 'Can Fingerprints Lie: Re- Weighing Fingerprint Evidence in Criminal Jury Trials' [2003] 4 Am J Crim L 1

[6] Bharatiya Nagarik Suraksha Sanhita, 2023, s. 176 (3)

[7] <https://www.britannica.com/science/forensic-science> accessed 25 November 2023

Forensic science helps in the identification of the criminal by linking him with the crime science. This is a method that helps to prove the guilt or the innocence of the accused for the administration of justice. Courts time and again have reiterated the importance of the use or the need of forensic in the criminal justice system. In this part, the authors have discussed some of the judgments where the hon'ble Supreme Court has talked about the importance and the need for using forensics in the dispensation of criminal justice.

The Supreme Court in *Tomaso Bruno and Anr.* v. *State of Uttar Pradesh,*[8] has observed that "advancement of information technology and scientific temper must pervade the method of investigation as scientific and electronic evidence can be a great help to an investigating agency."

In *Dharam Deo Yadav* v. *State of U.P,*[9] the court emphasized that "the need to adopt scientific methods in crime detection to save the judicial system from low conviction rates. The Court also highlighted the need to strengthen forensic science for crime detection."

In the State *of Gujarat* v. *Kishanbhai,*[10] the Supreme Court observed, "as there has now been a great advancement in scientific investigation tools, scientific investigation would have unquestionably determined whether or not the accused was linked with the crime".

In *Manohar Lal Sharma* v. *Union of India*[11], the Court observed, "Blending of science with traditional criminal investigation techniques offers new horizons of efficiency in criminal investigation, which reduces dependence upon informers and custodial interrogation and concentrates upon skilled scanning of the crime scene for collection of physical evidence".

In *Prakash* v. *State of Karnataka*[12] the Supreme Court opined "from now onwards because of the development of scientific methods of investigation the prosecution must lay stress on scientific evidence".

In the recent case of *Mukesh and Another* v. *State (NCT of Delhi),*[13] which is polularly known as the Delhi Gang Rape case, wherein a twenty-three year girl was raped by six men, the conviction was based on blood samples, DNA profiling and analysis of the bite marks in addition to the other evidence. The Court in this case discussed the importance of DNA evidence that is an important part of forensic science. The Court stated that, "India, like several other countries, is increasingly

[8] (2015) 7 SCC 178
[9] (2014) 5 SCC 509
[10] (2014) 5 SCC108
[11] (2014) 2 SCC 532
[12] (2014) 12 SCC 133
[13] (2017) 6 SCC 1

relying upon DNA evidence. DNA profiling is now a part of the statutory scheme. A DNA report deserves to be accepted unless it is absolutely dented. In case the DNA report is rejected, it must be established that there had been no quality control or quality assurance. A DNA report should be accepted if there is no error in sampling and no indication of tampering of samples. The investigation has been cautious and to bring home the charge, modern and progressive scientific methods have been adopted".

In addition to the above, the Government of India is also laying down great emphasis on the use of scientific techniques in the investigation of crime.[14] Under the old scheme, it was the discretion of the investigating officer whether to seek the help of a forensic expert or not as there was no mandatory clause which compelled him to seek forensic advice. Realizing the importance of forensics, the new criminal regime has mandated the use of forensics in the investigation of certain offences. The Bharatiya Nagarik Suraksha Sanhita, 2023 casts a responsibility on the officer in charge of the police station to cause the forensic expert to visit the crime scene for collection of forensic evidence in offences which are punishable with more than seven years. He should also ensure that the entire process of collection of forensic evidence is videographed on mobile phone or any other electronic device.[15] Not only India, the other countries are also marching progressively towards the use of these techniques.[16]

The above discussion shows that there is no iota of doubt that the use of scientific techniques in investigation would help in securing evidence and will help in better administration of criminal justice.

ISSUES OF ADMISSIBILITY AND RELIABILITY

When the scientific evidence is brought to the Court, the question faced by a judge is to decide the admissibility[17] of such test. The courts have been made the "Gate Keepers" to decide the admissibility of these tests. There are three questions that a judge must answer. Firstly, the validity of the underlying scientific principle. For example, the narco analysis is based on the principle that when sodium pentathol is intravenous injected to a subject then the subject enters into hypnotic trance and loses conscious control over the questions asked to him. The evidence of narco-analysis test is not reliable if the principle of entering into trance is false. The second

[14] PTI, 'Government aims to make forensic teams site visit mandatory in crimes that attract over 6 years of jail: Amit Shah' *The Times of India* (14 October 2021)
[15] Bharatiya Nagarik Suraksha Sanhita, 2023, s. 176(3)
[16] Edward J Imwinkelried, *Forensic Hair Analysis: The Case Against the Underemployment of Scientific Evidence*, [1982] 39 Wash & Lee L Rev 41, 47
[17] Indian Evidence Act, 1872, s 136

inquiry that must be put forth by the judge is, whether the technique applying the scientific principle valid? For example, assuming that no two persons have same fingerprints, is there a reliable method of analyzing the fingerprints. Unless there is a reliable method of analyzing the fingerprints, scientific evidence purporting to show that a person's fingerprints were recovered from a crime scene is not reliable. The thirs and final question is that when it is assumed that there is a valid scientific principle and there is technique to measure it, the judge must inquire whether the technique was properly applied on that particular occasion. That is, the judge must question the expert about possessing necessary skills to apply that technique.

The admissibility determination is complex when the party produces before court evidence based on some principle, which is novel or the technique is novel. In order to answer these questions the Courts in the U.S. have laid down certain tests. These tests have been adopted and followed in India also.[18]

The first test was laid in 1923 in the case of *Frye* v. *United States.*[19] The question in this case was regarding the expert testimony concerning a lie detector test. "This test, which was based on changes in systolic blood pressure. The Court held that the principle had "not yet gained such standing and scientific recognition among physiological and psychological authorities." The standard that was established by the Circuit Court was "general acceptance in a particular field." The rule that was laid down was that if a particular technique has got standing and scientific recognition amongst those working in that field then the courts would be justified in accepting the expert testimony.[20]

Years later, in 1993 another test laid by the US Supreme Court in the case of *Daubert* v. *Merrell Dow Pharmaceuticals.*[21] In this case the Court propounded "a standard of evidentiary reliability". The Court emphasized that trial courts, as "gatekeepers" are to ensure that only scientific knowledge should reach the jurors. Knowledge is scientific if it is "verifiable" and "reliable". When a party produces evidence the factors that should be considered by the Court are:

1. "Whether the expert's technique or theory can be tested and assessed for reliability
2. Whether the technique or theory has been subject to peer review and publication
3. The known or potential rate of error of the technique or theory

[18] *Selvi* v. *State of Karnataka* (2010) 7 SCC 263
[19] (1923) 293 Fed 1013
[20] David E. Bernstein, 'Frye, Frye, Again: The Past, Present and Future of the General Acceptance Test' (2001) 41 Jurimetrics 390
[21] (1993) 9 US 579

4. The existence and maintenance of standards and controls
5. Whether the technique or theory has been generally accepted in the scientific community"[22]

Though these tests have been used for quite some time to decide the admissibility of novel evidence there are concerns even when a scientific technique is sufficiently established. It has been time and again propagated that some of the tests conducted under the forensic science are not accurate. One such example is the results of bite marks. Another issue is whether the technique was properly applied, that is, whether there is any scope of error in reaching to a conclusion or is the reliability hundred percent.

ERRORS IN FORENSIC SCIENCE

One must not equate ignorance of error with the lack of error.[23] One of the most problematic areas of forensic science is the concept of error as error can be defined in a number of ways. According to Black's Law Dictionary "Error is an assertion or belief that does not conform to objective reality; a belief that what is false is true or that what is true is false".[24] In applied mathematics, error means "the difference between a true value and an estimate, or approximation, of that value". In statistics, a common example is "the difference between the mean of an entire population and the mean of a sample drawn from that population".[25]

There are a number of factors contributing to the errors in forensic science thus making the concept of errors vague and open to interpretations. Identification and interpretation of error is more challenging in the courts, as the judges are not specially trained in the field of forensics and lack special knowledge with regards to the same.

On the basis of source error can be of three types namely;

1. Systematic error
2. Random error
3. Gross error

[22] For further reference see: Joseph R. Meaney, 'From Frye to Daubert: is a Pattern Unfolding?' (1995) 35 Jurimetrics 193

[23] D. Michael Risinger; Michael J. Saks; William C. Thompson; Robert Rosenthal, 'The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion' (2002) 90 Calif L Rev 3

[24] Angi M. Christensen, Christian M. Crowder, Stephen D. Ousley and Max M. Houck, 'Error and its Meaning in Forensic Science' (2014) 59 J Forensic Sci 123

[25] < https://www.britannica.com/science/error-mathematics> accessed 1 October 2023

"Systematic errors include instrumental errors, method errors, individual errors, and environmental errors".[26] Systematic errors occur when the apparatuses used for testing the samples collected have inherent default or the surroundings in which they are kept are not suitable for the apparatus (for example temperature), This produces readings which are consistently above or below the true value. Random Errors are those errors, which are caused randomly due to factors that are not in our control and are unpredictable. Gross errors are errors caused due to the negligence caused by undue human errors based on the negligence of the experts testing the sample.

The errors in forensics question the validity and the reliability of the testimony of the expert and the weightage that is attached to this testimony. Therefore it is important the courts should be careful in accepting the testimony of the experts as it may at times lead to wrongful conviction which means innocent people being judged as guilty.

As discussed above the challenge is whether forensic science can accurately and conclusively determine the guilt of the accused. In United States, Project Innocence has been initiated and according to them the misapplication of forensic science has contributed to 52% of wrongful convictions. According to the US. National Registry of Exonerations[27] false or misleading forensic evidence was a contributing factor in 24% of all wrongful convictions national. As far as India is concerned there is no data collected by any agency so far.[28] The authors in this article have studied certain cases of India as well as other jurisdictions to showcase the point that misapplication of forensics may result in travesty of justice.

CASE STUDIES: AN ANALYSIS

The role of the use of forensic sciences *vis-a-vis* the criminal investigation is very important and significant. The authors in this part analyze the cases where the different techniques with regards to forensic science were used to prove the guilt of the person and there were errors in forensics that finally lead to the acquittal.

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[26] <https://www.jfsmonline.com/article.asp?issn=2349-5014;year=2017;volume=3;issue=3;spage=139;epage=143;aulast=Du> accessed 30 July 2023

[27] <https://newkirkcenter.uci.edu/national-registry-of-exonerations/"> accessed 15 September 2023. The National Registry of Exonerations, a collaborative project with the University of Michigan School of Law and Michigan State University School of Law. The mission of the National Registry of Exonerations is to provide comprehensive information on exonerations of innocent criminal defendants in order to prevent future false convictions by learning from past errors. The Registry collects, analyzes and disseminates information about all known exonerations of innocent criminal defendants in the United States.

[28] <https://innocenceproject.org/overturning-wrongful-convictions-involving-flawed-forensics/> accessed 1 August 2023

Hari Om @ Hero v. *State of UP*[29] involved six people who were accused for committing dacoity and murder of four persons. The Trial Court convicted all six of them on the basis of fingerprints. The fingerprints of the accused matched with the latent fingerprint found in the deceased house. On Appeal to the High Court three people were acquitted whereas two of them were awarded life imprisonment and one of them was sentenced to death. Convicted persons appealed to the Supreme Court and the Court acquitted all of them by dismissing the fingerprint evidence on which the conviction was based. The fingerprint evidence was found unreliable as the Apex Court questioned the training and experience of those who had taken the latent fingerprints from the crime scene. There was also no mention about the method of taking the fingerprints and also there was no mention whether the items from which the latent fingerprints were taken was available for analysis or not.

In the case of *Premjibhai Bachubhai Khasiya* v. *State of Gujarat*[30] two persons were accused of kidnapping and committing rape of a girl that led to the pregnancy of the victim. Medical examinations of both the accused and their DNA samples were taken. The samples were sent for analysis and on the basis of the expert report one of the accused was acquitted. The reason for the same was that the DNA profiling of the acquitted person did not match the fetus and therefore he was excluded as the biological father. However, the tests concluded that the other accused was the biological father of the fetus. On the basis of this report the accused was convicted and sentenced to ten years of imprisonment. An appeal was filed before the High Court challenging whether conviction of the accused could solely be based on the DNA report in the absence of any other corroborating evidence.

The High Court in the appeal acquitted the accused on the basis that the foundations of DNA science are based on probability theory. It only shows the probability as per random occurrence ratio and cannot be treated as a conclusive proof that the accused is the father of the fetus. Therefore, the Court acquitted the accused.

The Court also in certain cases have pointed out that the conviction of the accused cannot be solely based on DNA evidence because at times it may be fallible. In the case of *Pattu Rajan* v. *State of Tamil Nadu*[31] the Court stated that "given that even though the accuracy of DNA evidence may be increasing with the advancement of science and technology with every passing

[29] AIR 2021 SC 402
[30] (2009) CriLJ 2888
[31] (2019) 4 SCC 771

day, thereby making it more and more reliable, we have not yet reached a juncture where it may be said to be infallible".

Mohd. Aman v. *State of Rajasthan*[32] three persons were held liable for robbery and murder by the Trial Court and that was confirmed by the High Court. The accused contended that they were falsely implicated at the instance of the police. There was no eye witness in the case therefore the prosecution strongly relied on the fingerprints and footprints collected from the crime scene. Accused 1 was sentenced on the basis of fingerprints that were found from the house of the deceased on a jug. The specimens were taken three times as the fingerprint bureau said that the first two samples were not clear. And hence the conviction was based on the third sample collected by the bureau. Accused 2 was convicted on the basis of fingerprints and footprints. It is important to note that the police searched the crime scene the very next day when the crime was committed. However the footprints and fingerprints collected from crime science and sent for analysis were after a lapse of eleven days. Moreover the accused was in police custody when the samples were taken.[33]

An appeal was made before the Hon'ble Supreme Court where the court set aside the order on the ground that the Magistrate was not present when the samples were taken. Further the Court raised questions on the development of the law relating to the analysis of the footprints.

In the case of *Gopal Sharma* v. *State of Rajasthan*[34] the accused was charged with the offence of rape and murder of a 7-8 year girl and was sentenced to life imprisonment by the Trial Court. There were no eyewitnesses in the case and one of the circumstances that was strongly relied on by the prosecution was the footprints of the accused that were found around the well from where the body of the victim was recovered. There were a lot of inconsistencies regarding the footprints taken like whether the analysis was based on the basis of footprints or footwear soles, the sample was of left foot or right foot, absence of Magistrate at the time of recovery and absence of footprints on site plans. In addition to this there were many people present around the crime scene that led to the tampering of the crime scene when the body of the victim was being taken out. The court cited various judgments[35] and said that the science of footwear analysis is not fully developed and hence acquitted the accused.

[32] (1997) 10 SCC 44
[33] *Babu Khan* v. *State of Rajasthan* (1997) 10 SCC 44
[34] (2016) SCCOnline Raj 5795
[35] *Pritam Singh* v. *State of Punjab*, (1956) AIR SC 415, *Mohd. Aman* v. *State of Rajasthan,* (1997) 10 SCC 44. *Balbir Singh* v. *State of Punjab,* (1996) 6 SCALE 72

Citing another *Scottish case*, which involved the murder of an old woman in her home. The accused was held liable for murder. The conviction was based on fingerprints that were found on certain items found in the victims' house and a container found in the accused house, which contained money, which was an important piece of evidence against the accused. Based on this the prosecution developed a hypothesis that murder was committed in order to commit robbery. The court convicted the accused on the basis of these two evidences. However the accused maintained that he was innocent and he did not commit the murder.

In addition to the fingerprints of accused one another fingerprints were recovered from the crime scene, which the experts alleged, belonged to a detective. But the detective was not accused of murder. However she was charged with the offence of perjury because she contended that she had never visited the crime scene and therefore it was impossible that her fingerprints could be found there. This agitated the prosecutors and they charged her for the same. The detective in her defense-produced expert who gave report that the fingerprints found at the crime scene did not belong to her. The detective's acquittal did not solve the inherent problem and the question that was raised was the error in fingerprint identification, which was the main evidence for the conviction of accused for murder. The court stated, "It begs the question of whether the accuracy of fingerprint identification evidence is a factual truth or merely an urban legend- a legend that has only been demystified by one misidentified Scottish detective".[36]

Finally the Crown's Court acquitted the accused on the basis of concerns that had been raised regarding the reliability of fingerprint evidence. The Court further held that "Although one may compartmentalize this problem as merely an evidentiary dilemma for the criminal litigator, it is more accurately described as an issue threatening the public confidence of the jury system and the reliability of modern criminal law. Indeed, it poses a serious menace to justice".[37]

David R Camm v. *Sean Clemons*[38] In this case the accused was alleged to have committed the murder of his wife and two children by firing at them. He was convicted and one of the evidence given was that his t-shirt had the bloodstains of his wife in a particular pattern that suggested that he was the perpetrator of the crime. He was sentenced to 195 years of imprisonment. However, the Supreme Court of Indiana acquitted the accused on the ground that the expert

[36] Tamara F. Lawson, 'Can Fingerprints Lie: Re- Weighing Fingerprint Evidence in Criminal Jury Trials' (2003) 4 Am J Crim L 1

[37] Ibid.

[38] United States District Court, 2021 <https://content.govdelivery.com/attachments/INAG/2018/01/30/file_attachments/950833/Summary%2Bjudgment%2Border%2BECF%2B226.pdf> accessed 15 July 2023

who had initially testified about the blood splatter had no history of working as an expert and had falsified his credentials.

Further, years later he filed a case claiming compensation for the emotional distress caused to him due to his wrongful conviction.

In the case of *Brandon Mayfied*[39] an incident of 2004 where terrorist bombing led to the killing of 191 people and injuring 1400 in Madrid, Spain. In this latent fingerprint were recovered from a bag of detonators containing explosives and the same were sent by the agency to other police agencies through INTERPOL including FBI. The FBI identified the accused and arrested him by carrying on a search in the online database. In addition to this a search warrant was also issued against him. However, the accused contended that he did not have a passport and had not traveled outside the US in the last ten years.

Few weeks later the Spanish investigating agency linked the fingerprints to another suspect who belonged to Algeria. On the basis of this error the FBI released the accused from custody and issued an apology. In 2004 a case was filed against the FBI, DOJ by the accused regarding the violation of his rights and illegal arrest by the FBI.

In another case the accused was convicted for shooting and wounding a police officer on the basis of fingerprint evidence collected from the crime scene. On the basis of this he was sentenced to 30- 45 years of imprisonment. However, years later the post conviction DNA of the accused showed that he had not committed the crime and the investigating agency admitted that the fingerprint evidence was erroneous. On the basis of this the accused was freed after spending six and a half years in jail.[40]

From this an analysis can be drawn that there are times when the use of different techniques of forensic sciences can also be wrong and the basic reason for that is that there are no standardized rules for deciding the admissibility and the reliability of the tests which prove the innocence or the guilt of the accused. At times the results of the tests are 'inconclusive' as has been analyzed in the judgments above. It is important that there has to be sufficient evaluation of the techniques that has to be done before making it conclusive.

[39] <https://www.history.com/this-day-in-history/terrorists-bomb-trains-in-madrid> accessed 30 July 2023
[40] Simon A. Cole, 'More than Zero: Accounting for Error in Latent Fingerprint Identification' [2005] 95 J Crim L & Criminology 987

Below is the tabular representation of the cases that have been analyzed and discussed by the authors in the above section wherein errors were found in forensic results and ultimately the accused was acquitted based on the error.

CONCLUSION

At this juncture we can say that forensic science is very important component of criminal investigation as it helps in identifying the person who has committed the crime. The judiciary has placed much reliability on using the scientific techniques in criminal investigation. Criminal trials are important and of serious nature not only from the accused perspective but also keeping in mind the safety of the society. That is why the thumb rule used for proving guilt of a person is beyond reasonable doubt. For this the forensic science plays a very important role.

Further it is pertinent to mention that during the criminal investigation eyewitnesses play a significant role but in their absence forensic evidence plays an important role in the corroboration of facts related to crime to credibly prove the guilt or the innocence of the accused.

Here it becomes pertinent to mention that the scientific techniques used for proving the guilt or the innocence of a person is not similar to the legal proceedings adopted like opening statement, cross examination etc. which forms the basis of free and fair trial which is the foundation of the criminal justice system. This process adopted by the court cannot test the reliability of the techniques used for proving the guilt or innocence of the accused. And therefore much weightage is placed upon the evidentiary rule of the expert testimony *vis- a- vis* scientific techniques.

"As the Court, vide its order dated 30 November 2017 in the judgment of *Baloo Chauhan* v. *NCT*[41], specifically called for the Law Commission of India (the Commission") to undertake a comprehensive examination of issue of relief and rehabilitation to victims of wrongful prosecution, and incarceration[42] the same holds true for the wrongful convictions taking place through the use of scientific techniques". This brings us to the idea that it is difficult to give back the years that have been lost by the person wrongfully convicted but at least some efforts can be made to bring him back to the society and provide compensation for the loss suffered.

[41] [2018] 247 DLT 31
[42] Law Commission of India Report, *Wrongful Prosecution (Miscarriage of Justice): Legal Remedies* (2018)

Responding to mounting proof of wrongful convictions and erroneous and even fraudulent forensic science evidence, we need to study ways to strengthen forensic science. The authors would like to propose that it is important that in cases of scientific analysis there should be uniformity as far as the training of the experts are concerned. Although many of these scandals are associated with bad forensic science, the root cause of the failures is the lack of a suitable quality control program or "bad forensic scientists."[43] Further in addition to this there should be certain standard guidelines that should be laid down with regards to the different techniques used. Further the results of some of the tests conducted under the forensic science are accurate but there are no studies to support this argument and therefore it is mandatory to lay down guidelines/ standards for the admissibility of these tests. However, the authors here propagate the idea that there should be independent authorities to decide the admissibility of the tests. On the basis of these tests the innocence or the guilt of the accused is decided. In case of guilt being established on the basis of misapplied forensics there is a serious question on the concept of "Fair/ Perfect Justice".

[43] <https://www.ojp.gov/pdffiles1/nij/250705.pdf> accessed 10 July 2023