

ADMISSIBILITY AND RELEVANCY OF EXPERT EVIDENCE IN INDIA: A COMPARATIVE STUDY WITH UK AND USA

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ABSTRACT

The expert opinion is considered an important part of legal hearings, especially in matters that involve intricate scientific, technical, or specialized knowledge. The admissibility and reliability of expert testimony evidence have impactful effects on both the judge and jury-made decisions, which calls for uniformity of standards in various jurisdictions. In India, the amended Indian Evidence Act lays down the criteria to be used in judging the probative weight of an expert opinion. In the US, the Daubert Standard is used to determine the admissibility of expert testimonies. In the same way, the United Kingdom's strategy focuses more on the task of the expert in assisting the court than the expert being the focal source of information. This paper tries to focus on these frameworks by examining the differences and similarities with regard to the laws on expert testimony in India, the UK, and the US. It attributes its comparative focus to some fundamental issues in the standards of expert evidence that remain unresolved but critical to the contemporary judicial system. Therefore, with the aim of improving the standards of evidence in modern law, the paper aims to set uniform standards of admissibility, improve the training of legal practitioners, and promote the ethical conduct of experts.

Keywords: Expert Opinion, Indian Evidence Act, Expert Testimony, Probative Weight, Evidence Standards, Uniformity of Standards.

1. INTRODUCTION

A cornerstone of modern legal practice, particularly in instances where specialized or scientific knowledge is required, is the use of expert opinion in judicial proceedings. Experts help courts look into aspects that are too complicated to be elucidated without the expertise provided by professionals in areas such as forensic science, medicine, and digital technology. At the same time, this reliance also begs the question of the objectivity and reliability of expert testimony, which is crucial in assuring that the evidence presented is not the determining factor of a judicial outcome¹. In India the Act² first came into force in 1872, and has admitted the expert testimony in the Indian legal system, and recognized its admissibility quite late. Over the years, the act has undergone various amendments so as to keep pace with application of science and technology, and international norms. Section 45 of the amended act permits the admissibility of expert testimony in matters that are complicated and require specialized knowledge such as forensic science, international law or thumb printing and handwriting. However, it must be added that despite the amendments, the Act still does not provide guidelines of how to assess the reliability of expert

Mishra, R. *Evidentiary Value of Expert Opinion under Indian Law*. (Mumbai: ABC Publications, 2021).¹
Indian Evidence Act, 1872 (as amended).²

testimony, thus leaving it to the judiciary to for its interpretation and its usage for instances depending on the case³.

There is no doubt that there is a reflection of modern legal requirements in the amended Act, what however remains is the issue of incoherent criteria relating to evaluation of the scientific expertise. This gap has caused dependence on the judiciary, leading to the creation of different standards in different cases. For instance, even though the courts have considered the factors of the expert's qualification, the methodology, and level of acceptance, there are no criteria for guaranteeing consistency. As in the case of *Selvi v. State of Karnataka*⁴, there is a clear and strong argument as to what the admissibility criteria in respect of scientific evidence should be, particularly where issues relating to human fundamental rights are concerned.

On the other hand, one can derive a more detailed view on such evidences from the comparative study of legal systems of the UK and USA. In the United Kingdom, the Civil Evidence Act⁵ of 1995, focuses on neutrality, scientific approach and soundness. To that end, the courts in the UK implement legal practice directions to ensure experts' testimonies enlighten areas that are out of the court's knowledge base in order to promote objectivity and avoid biases⁶.

Expert Opinion

The legal history has undergone a fundamental change with the rise of forensic psychologists and the development of technology, which has enabled the courts to take into consideration the professional input of the witnesses in complicated cases. However, the changes made to the Indian evidence act of 1872 clearly show that reliance on such testimony is to be exercised within limits as stated in section 45 of the Act.

a. Definitions

Expert opinion testimony is the term used to describe the impression formed by the witness on the basis of his or her experience, and specialized knowledge in disciplines that are pertinent to the case. As contained in section 45 of the Indian Evidence Act², an expert is someone who is well versed in science, art, foreign law, and handwriting or finger impressions. This progression has been in the form of amendments which expanded the scope of the Act to include substantial evidence pertaining to technology and was relevant for forensic and cyber security professionals to get involved in cases of cyber security and information privacy.

In other words, the courts have tried to interpret the term 'expert' in a much practical sense; in terms of not only possession of degree certificates but the special knowledge and experience to practically apply that knowledge. In the case *Gurnam Singh v. State of Punjab*⁷ the Supreme Court observed that apart from degrees, practical experience and understanding of the area involved would demonstrate expertise. Likewise, in *State of Tamil Nadu v. V. Krishnaswamy*⁸, the court underlined that the opinion must always be within the scope of the expert knowledge, or skill of the expert, which assists in the determination of the facts at issue.

Basu, D. *Law of Evidence in India*. Allahabad Law Agency (2020).³

Selvi v. State of Karnataka, AIR 2010 SC 263.⁴

Civil Evidence Act, 1995 (UK).⁵

Davies, J. "The Role of Expert Testimony in Modern Jurisprudence" 34 *Journal of Comparative Law*, 145-167⁶ (2022).

Gurnam Singh v. State of Punjab, (2021) 2 SCC 434.⁷

State of Tamil Nadu v. V. Krishnaswamy, (2023) 3 SCC 245.⁸

The Indian broadening the boundaries of expertise indicates an intention to sharpen the definition of legal practice as new fields come forward. For instance, in the field of digital forensics, participants may lack formal qualifications but have applied knowledge that is relevant to solving crimes today. Such emerging standards are in accord with section 5 of the Civil Evidence Act, 1995 in the UK, which also permits persons with relevant expertise that is not determined by formal qualifications to give evidence.

b. Admissibility

The admissibility of expert opinions is an important concern; more so because expert witnesses tend to influence the verdict in a substantial manner. Section 45 of the Indian Evidence Act states that areas of expert opinion are naturally those that lie beyond the understanding of ordinary persons, however, the Act still does not stipulate how such opinions should be evaluated. This led to the evolution of some criteria by Indian courts based on factors such as the qualifications of the expert, the method employed and the reliability of the findings.

The methodology employed by the Supreme Court in the case *Selvi v. State of Karnataka*⁵ put significance on the scientific reliability in the issues of admissibility with particular emphasis on techniques that could violate the rights of individuals. It further stated that such testimony may be used only with the individual's consent, and emphasized that admissibility is not merely concerned with the scientific truth; but also the ethical issues surrounding the way evidence is obtained.

In the recent *Rajiv Gandhi Assassination case*⁹, the principles of admissibility were also discussed when focusing on the DNA substantiation; the Supreme Court stressed the importance of high standards for the scientific evidence collection, preservation and analysis. The Court specified that only the DNA evidence that is collected, stored and tested in strict accordance with uniform procedures, directing Indian practice towards the US's "Daubert Standard." The *Daubert v Merrell Dow Pharmaceuticals Inc.*¹⁰, Provides USA law courts with a number of criteria including testability, peer review, rate of error and acceptance within particular scientific areas. This system is important as it ensures that only scientifically sound evidence accepted that is by a majority of scientists is presented in a court.

The case of *Kishan Chand V. State of Haryana*¹¹ is yet another influential case with respect to the Indian circumstances where the role of judiciary in examining the credibility of expert methodologies was examined. The court stated that opinions made on scientifically-unproven or otherwise un-objective techniques are devoid of probative value and advised lower courts to only permit opinions based on established scientific methodologies. These statements in this ruling however portray a scene where India should be looking towards more well-defined frames of guidance in terms of the UK's Civil Evidence Act where the strength of evidence is that which is independent and scientific.

c. Relevancy

As per Section 5 of the Indian Evidence Act, relevancy is one of the most essential factors in deciding the admission of an opinion rendered by an expert. Their testimony must elucidate the matters in dispute beyond the understanding of an ordinary person. Therefore, in Indian courts, the experts are allowed to only give opinion in so far as it relates to the matter under consideration and does not merely provide an explanation for the matter

Rajiv Gandhi Assassination Case, (2022) 5 SCC 367.⁹

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).¹⁰

Kishan Chand v. State of Haryana, (2023) 4 SCC 129.¹¹

For instance in *State of Maharashtra v. Kamal Narain Agarwal*¹² –the Supreme Court ruled that in personal injury cases medical experts' evidence is admissible only to the extent that it is helpful in determining the nature and impact of the injuries. The Court redacted some parts of this testimony, which were irrelevant to the facts, and pointed out that relevance means evidence which can in a way affect the determination of the case. This principle has some similarity with what is called in the U.S., Crawford Bowen Daniel Daubert Standard, which specifies that expert testimony must be relevant to the issues in the case, to avoid experts giving evidence which is not relevant or is speculation.

Moreover, the expert's knowledge does not indicate perfect relevance as it is also limited to the area of specialization. In the judgment of *Ram Singh v. State of Delhi*¹³, the Supreme Court posited that a cyber-forensic expert was relevant to testify about digital evidence, but they were restricted to matters that fell only within their field of specialization, solidifying that the expert opinion must align with the specific requirements of the case. This limitation serves as a protection from the potential of excessive reliance on expert testimony, ensuring that experts remain within their field of knowledge and ethical limits.

In *Kailash v. State of Uttarakhand*¹⁴, the ruling highlighted that even if experts are permitted, they are not allowed to answer the ultimate legal questions since those questions belong to judicial interpretation. In this instance, the court stated that the expert opinion about the mental state of the accused cannot be used to prove or disprove culpability as this was a task of the court, rather than of any expert's opinion. This further limit on relevance is consistent with practice in the UK or the USA, where expert opinion is treated as an aid to reasoning rather than a determining factor in the judgment.

The relevance rules are therefore relevant to the testimony of experts as they prevent any undue interference of such experts in court, or in areas which are reserved for consideration by the Court. This is similar to the provisions of the UK Civil Evidence Act 1995 and every other jurisdiction that insists that an expert's testimony be confined to areas in relation relevant to the case in order to avoid undue prejudice.

Judiciary on Expert Opinion

The judiciary plays an important role, since the provisions in the Indian Evidence Act of 1872 do not provide sufficiently strict standards concerning the admissibility and weight of an opinion. Section 45 of the Act allows courts to utilize expert opinions in cases where more than ordinary knowledge is needed to assist with fact resolution. At the same time, the law concerning expert witnesses and their acceptance and scope of work was largely formed by the executive authorities in India. Courts in India have set forth the standards through a series of landmark cases, which define the role that expert witnesses may play in justice without violating ethical or evidentiary rules.

One of the most controversial issues in Indian legal jurisprudence in the collection and use of expert testimony is the need to assess its reliability and the degree of its relevance to the case in order to establish scientific reliability. The Indian Evidence Act does not mention clearly defined

State of Maharashtra v. Kamal Narain Agarwal, (2021) 6 SCC 231.¹²

Ram Singh v. State of Delhi, (2022) 9 SCC 302.¹³

Kailash v. State of Uttarakhand, (2020) 8 SCC 101.¹⁴

guidelines for the admissibility of evidence, leading the judiciary to take a more procedural stance with case law.

In the noteworthy case of *Selvi V State of Karnataka*⁴, the Supreme Court elaborated on the issue regarding admissibility of scientific evidence such as Narco-analysis, polygraph tests and brain-mapping. According to the court, subjects could not be compelled to undergo these techniques without their informed consent as they violated the right of the subject to privacy and constitutional provisions. In respect of such voluntary participation in the tests, the court also stressed that, expert evidence is not solely based on the soundness of the science but, the ethics and the law must be adhered too.

Recently, in the *Rajiv Gandhi Assassination Case*⁹, the Supreme Court made clear hints towards the appropriate level of reliability that is required in forensic evidence. In this proceeding, DNA evidence was brought up and the court decided that such evidence was indeed admissible, but only if the evidence had been collected, stored and tested according to stringent rules. The judgment illustrates respect to the principles of science and the rule of law in examining the admissibility of expert opinion, bringing Indian practice in line with the Daubert standard in the US which looks into areas such as testability, replication, error rates and consensus among scientists.

In *Kishan Chand v. State of Haryana*¹¹, the Court went one step further and reiterated that such expert opinions which do not possess methodological soundness cannot be considered to possess probative value. It was emphasized in the ruling that an expert's opinion must be based on methods that are known and can be checked. The Court also warned lower courts to be more careful about the use of expert evidence, and pointed out that in the interest of justice, it is important to be methodologically sound in order to avoid the consequence of unreliable evidence.

Judicial Standards on the Weight of Expert Testimony

The weight given to the expert opinion is not absolute as Indian courts have in a number of cases admitted that the expert evidence may be wrong or biased. Courts have established numerous times that as much as possible, other parts of the evidence should also support the opinion of an expert. The courts have also stated that expert opinion ought not to be the determining factor but the way forward for judges as they strive to reach a balanced conclusion.

The Supreme Court, in the case of *Murari Lal v. State of Madhya Pradesh*¹⁵, made clear that, despite its usefulness, more weight should not be placed on the generality of expert evidence. The court noted that expressions of opinion by experts are likely to be colored by their own prejudices or mistakes and for that reason such opinions need to be corroborated with other evidence as well. In this principle, the court, in the case of *State of Maharashtra v. Damu Gopinath Shinde*¹⁶, gave a direction that one should not be over-reliant on expert opinions on issues of a subjective nature like handwriting for example.

Likewise, in *Ram Singh v. State of Delhi*¹⁷ the Supreme Court held that the emphasis attributed to the expert evidence must be commensurate with the weight of the evidence as to its reliability, the openness of the methods of the witness, and their relationship with the other evidence gathered in the case under consideration. Furthermore, the court added that not all evidence given by expert witnesses is absolute and reliable and as such, it is prudent to look at such evidence for possible

Murari Lal v. State of Madhya Pradesh, (1980) 1 SCC 704.¹⁵

State of Maharashtra v. Damu Gopinath Shinde, (2020) 8 SCC 217.¹⁶

Ram Singh v. State of Delhi, (2022) 9 SCC 302.¹⁷

contradictions or methodological limitations. This conviction is in consonance with the Civil Evidence Act of UK, which entrenches the consideration of expert witnesses not to act as advocates but to possess a body of information and knowledge which would aid in the decision of the court.

Limitations on Expert Testimony

Indian courts repeatedly stated that expert witnesses must not provide their opinions on the matters which are to be ultimately determined by the courts, such as the matters of guilt, matter concerning the mental state, legal responsibility. This limitation helps to ensure that the expert witnesses are restrained from overstepping their advisory responsibilities and that the court maintains its position as the final arbiter of facts and law.

In *Kailash v. State of Uttarakhand*¹⁴, the Supreme Court ruled that the expert witness must not answer the main issue of legal responsibility due to the fact that such testimony is not the province of an expert opinion. The court viewed, with reference to the role of experts that their technical input does not address the issues of culpability or guilt, which are always within the domain of the courts. Such an approach is consistent with the “ultimate issue rule”, which is followed in the common law, in which the experts are not permitted to give opinions on the questions which are in the purview of the courts.

Another limitation was observed in *Kamal Narain Agarwal v. State of Maharashtra*¹² where the court determined that the boundaries of views of experts are drawn by the field of specialization of the expert concerned. The court barred a forensic science expert giving statements on matters relating to medicine confirming that specialization in one area does not qualify a person to speak on other unrelated matters. This limitation prevents experts to dictate to the court on matters which are outside their expert opinions and ensures that all parts of a case are considered with precision and integrity.

Recent Trends and Evolving Standards

The internationalization of legal practice has made an impact on the judiciary, which in recent years has sought to set higher thresholds in the assessment of expert evidence. Adoption of advanced forensic standards as in *Rajiv Gandhi Assassination Case*⁹, confirms the rising concern within Indian courts for scientific standards. A similar trend was observable in the case of *Kishan Chand v State of Haryana*¹¹, where it was held that any expert opinion based on unsubstantiated or unproven methodology should not be entertained.

Further, Indian courts can now consider cross-examination of experts in the field in order to establish and verify the correctness of their opinions. In *Gurnam Singh v State of Punjab*⁷, the court allowed the cross-examination of the expert witness on the basis of the opinion’s methodology and reiterated that the expert testimony must be examined with a critical eye. This practice is in consonance with the gatekeeping function of judges under the Daubert Standard in US litigations, where judges perform the role of gatekeepers so that only sound expert evidence is presented to the jury.

Expert Opinion in the UK

In the United Kingdom, the law is structured in such a way as to make sure all witnesses’ testimony especially that of experts, is reliable and relevant. The UK courts have developed various guidelines and judicial criteria to facilitate the use of expert evidence and have recognized the

value of such evidence when it is necessary, while maintaining a balance with the principles of impartial justice and equality. Both the Civil Evidence Act of 1995 and the Criminal Procedure Rules¹⁸ clearly articulate, among other principles, an essential gatekeeping role by the judiciary, strengthened by case law.

In the United Kingdom, the legal opinion of experts is regulated by laws and rules generated from statutes as well as case laws and judicial practices. The British approach to expert evidence also has a focus on reliability, objectivity and scientific methodologies which assist in matters of the admissibility and relevancy of expert witnesses. The most relevant regulatory sources are the Civil Evidence Act⁵ and Criminal Procedure Rules¹⁸ which both call for the presence of clear and sound expert opinion evidence. The English courts also adopted the 'gatekeeping' function of judges with regards to the admissibility of expert testimony, which synthesizes the concerns over the scope and reliability of evidence with the well-known US case of *Daubert v. Merrell Dow Pharmaceuticals*,

The admissibility of expert evidence in the UK depends on its usefulness in dealing with issues which are beyond the knowledge of the average ordinary person. The Civil Evidence Act⁵ has a major significance in terms of dispensation of expert evidence in civil matters, where the witness need not appear in court to give evidence but objective and relevant expert opinions can be made through writing. Thus for criminal matters, expert evidence is contained in Part 19 of the Criminal Procedure Rules¹⁸, which is concerned with the admissibility of evidence and qualifications of the expert, their reliability of the methods used and objectivity. Furthermore, Criminal Practice Directions¹⁹ were revised in 2016 and provided more detail, stressing the need for expert witnesses to explain their methodology and any limitations they may encounter.

Gatekeeping Role of Judges

The courts in the UK are allocated a critical role of a gatekeeper, monitoring the relevance, reliability, and objectivity of expert evidence before allowing it to be presented. Such a position was stressed in the case of *R v. Turner*²⁰, where it was decided that expert evidence should be allowed if it enables the court to deal with issues that are outside the common knowledge. In this case, the court refused the expert's psychological evaluation of the defendant's mental state ruling in favour of the jury's capacity to decide for themselves the pertinent issues from the evidence. Such a precedent set the groundwork for an important discussion on the relevance and need of expert evidence.

Development of Judicial Standards

The UK's judicial attitude towards expert evidence can be traced back to the *R v. Turner*, which introduced the rule that expert evidence should only be admitted on issues that ordinary jurors would not readily grasp. In *Turner*, the psychological evidence concerning the mental state of the defendant was rejected by the court by stating that the jury was capable of considering the material in question to be able to make their own conclusions. This is how expert witness evidence was introduced to the UK courts structure as well as the ability to critically analyse its credibility and relevance.

Criminal Procedure Rules 2015.¹⁸
Criminal Practice Directions 2016.¹⁹
R v. Turner [1975] 1 WLR 1349.²⁰

The "Turner" principle was further sharpened in *R v. Silverlock*²¹, where the court allowed a handwriting expert as a witness because the skill was specialized and could help resolve the case concerning opposing documents. This decision illustrates that the UK courts have regard for the typologies about the relevance of the subject matter and its complexity in determining whether an expert opinion should be admissible or not, which sets the precedent of the need for the court to be balanced with the specialized knowledge of the expert.

The Ikarian Reefer Guidelines

Guidelines about the expert witnesses in UK courts have also been developed for impartiality and methodological transparency. The case of *National Justice Compania Naviera SA v. Prudential Assurance Co. Ltd. (The Ikarian Reefer)* created the first ruling which firstly laid down principles for expert witnesses that are now referred to as the "Ikarian Reefer" guidelines. These guidelines provide that, an expert witness shall give testimonial evidence in respect of their appointment independently and without bias, restrict the opinion to their area of specialization, in case the opinion is based on certain facts or speculation, explain the facts or the theories, and in the process of giving testimony act only as a witness without being an advocate for either side.

These guidelines were formulated to handle the issues raised concerning the fairness of expert witnesses and their independent stance. The case of the *Ikarian Reefer* is essential in emphasizing impartiality in experts. Experts are supposed to present their opinion along with all the relevant facts and assumptions which were used in forming the opinion. The *Ikarian Reefer* principles were then restated and made part of the Civil Procedure Rules part 35²² which has a similar provision requiring experts to give unbiased assistance to the court without taking into consideration the concern of the parties who hired them. This standard has become an integral part of law practice in the UK, and has been quoted in quite a number of cases. For example in *Meadow v. General Medical Council*²³, the court in this instance confirmed that an expert witness who offered opinion evidence outside his areas of expertise did not maintain the duty of impartiality, even if he was present in court.

Concerns over Expert Bias

The UK judiciary has also exercised restraint when viewing the influence of experts and the weight placed on expert testimony. In *R v Harris*²⁴ (2005) the Court of Appeal was concerned with the use of expert witnesses' testimony in cases of shaken baby syndrome and decided that those witnesses' opinions were to be rendered within the limits of what is currently scientifically understood. This case demonstrated that such opinions do not stand on flawed or controversial practices, which is consistent with a general attitude that a balance should be struck to ensure that unfounded, or unreliable evidence does not hamper the purpose of the trial.

In *Kennedy v. Cordia Services LLP*²⁵, the United Kingdom Supreme Court stressed that expert witnesses must explain the basis of their opinion about the subject and disclose the limitations of

R v. Silverlock [1894] 2 QB 202.²¹

Civil Procedure Rules Part 35.²²

Meadow v. General Medical Council [2006] EWHC 1715.²³

R v. Harris [2005] EWCA Crim 1965.²⁴

Kennedy v. Cordia Services LLP [2016] UKSC 6.²⁵

their methodology. The court stated that expert witnesses should explain how they reached their conclusion in order to help the judges understand the basis of their conclusion. Such a ruling reinforces the principles of balance and independence that the UK believes in when it comes to evidence-based expert opinion in court cases.

Comparative Analysis with India

The comparative analysis of the approaches towards the expert witness testimony between the UK and India is interesting, as it shows a number of major differences. The UK model provides a more defined system with laid out policies and procedures while India places much emphasis on the law and its application by the courts. There are, for example, the Ikarian Reefer guidelines and the Criminal Procedure Rules²² that essentially ensure that the UK courts are impartial and scientifically valid, but such conditions do not prevail in Indian laws. However, some of the recent Indian judicial practices, in cases like Rajiv Gandhi Assassination Case⁹ and Selvi v. State of Karnataka⁴, there has been a progressive shift towards scientific rigor and more developed ethical standards when it comes to expert testimony.

Given the wide gap between the practices in the UK and the other countries, the UK's practice might even give direction towards how things should be done in the other jurisdictions. It is clear that the UK judiciary do not adopt the ad-hoc approach to expert opinions as is the case in India, which can benefit from the adoption of a model which provides a framework similar to the policies in place in UK laws. This would help the Indian courts incorporate these principles and therefore improve the quality of the expert opinions assisting the courts and serving the interest of justice.

In general, the regulatory measures with respect to the expert opinion in the UK's legal system indicate an effort to uphold the best possible standards of proof through critical examination, objectivity and openness. The judiciary's guardianship of the jurisdictional boundary enables the provision of expert opinion evidence to the court context and is subject to restrictions that assist the court. As jurisdictions such as India undertake efforts to reach comparable standards, the UK model has lessons to be learnt on how to advance the dependability and credibility of the experts' evidence in pursuit of justice.

Expert Opinion in the USA

Within the context of US proceedings, the plaintiff shall establish whether expert testimony would be beneficial to their case. The US has developed a comprehensive set of laws surrounding the admissibility of expert testimony in civil and criminal lawsuits. This body of law is guided by the 'Daubert Standard' and is supplemented by a large body of rules at the national and state levels, a large number of judicial decisions, and their development over time. Specialist knowledge allows courts to make reasonable decisions and evaluations of evidence based on their knowledge which the average juror would not possess.

Legal Framework

The admissibility of expert evidence in the United States is regulated mainly by Federal Rules of Evidence²⁶ (FRE) primarily under Rule 702 which allows experts to give evidence if their specialized knowledge will assist the trier of fact in the understanding of the evidence or in determining a fact in issue. Rule 702 outlines three fundamental components of expert testimony.

Federal Rules of Evidence, Rule 702.²⁶

These components include factual basis, reliable facts that develop principles, as well as the principles that are associated with the case at hand. The rule is intended to provide safeguards against irrelevant expert evidence as well as unreliable expert evidence and helps in the pursuit of fair justice in the court.

What also enriches the framework is the important case-law interpretation of the Supreme Court in the rule of *Daubert v. Merrell Dow Pharmaceuticals, Inc.* The court paved the way for a stringent scrutiny on the relevance and the pertinence that scientific expert testimony may be accorded by stating that judges are gatekeepers. It is their task to see to it that any scientific evidence or testimony presented is both sufficient and relevant. This outcome emphasized the need for the courts to get involved in the pre-trial scrutiny of expert evidence for its relevancy prior to the actual presentation of the evidence to jurors.

The Daubert Standard

In the *Daubert* ruling, many key elements were provided for the evaluation of expert testimony. First, the theory or technique must be subject to empirical testing of both the theory and its claims, and it has been tested. Second, the methodology used must have been subjected to peer review and publication which serves as proof of its soundness in the scientific community. Third, there must always be known, or even potential error rates linked to the methodology providing a glimpse into the reliability and the weaknesses of the method. Finally, the method should be known to be widely used in the relevant horizontal industries, it remains one of the relevant factors even in the light of the *Daubert* ruling.

The implications of the *Daubert* standard have been significant; there has been an increased standardization and scrutiny of expert evidence while judges have shown that there are discrete bounds in their applications. For example, in *Kumho Tire Co. v. Carmichael*²⁷, the Supreme Court emphasized that the principles underlying the reliability of scientific evidence were standing and could therefore be applied to non-scientific presentations of testimony or expert witnesses even though evidence was not believed to be solely based on scientific knowledge.

The Role of Expert Witnesses

Expert witnesses are an important part of US litigation as they help judges and jurors understand the complex aspects of the case. These experts may include those specializing in medicine, engineering, forensic science, economics among others. They typically deliver their evidence and opinions during the direct examination, and the opposing lawyers challenge their qualifications, methodologies, and findings during the examination.

It is critical to evaluate the professional credentials of such expert witnesses. The necessity for expert witnesses to possess the requisite field experience and professional qualifications has been stressed by the courts. For instance, in the matter of *United States v. 14.38 Acres of Land*²⁸, the court ruled that although the witness had other qualifications, her lack of relevant qualifications relating to valuation of land was prejudicial because it affected her ability to testify effectively. This ruling shows that expertise is not just about having knowledge on the particular subject; it is about having hands on experience regarding the subject matter.

Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999).²⁷

United States v. 14.38 Acres of Land, 80 F.3d 1074 (9th Cir. 1996).²⁸

Variations in State Laws

Even though the basic structure is supplied by the Federal Rules of Evidence, the states have the latitude of formulating their own rules regarding the reception of expert evidence. This variation creates disparities in the treatment of expert evidence through the different jurisdictions. Some states use the Daubert standard while others still use the older Frye Standard which requires the evidence to be “generally accepted” in the corresponding scientific community.

This divergence based on jurisdiction may lead to distorted results especially in relation to the areas of law which may be coming from the same source. For example in *People v. Leahy*²⁹ the Californian Supreme Court endorsed the Daubert Standard and made it clear that only reliable expert's evidence will be received and considered. On the other hand, states like New York continue to apply Frye's standards which stresses on general acceptance than the strict criteria of reliability propounded by Daubert. It can be seen that the variations of criteria can indeed affect the outcome of the trial especially where there are intricate issues involving science as evidence.

There are important differences that can be seen regarding the US, UK and Indian approaches regarding the use of expert testimony. For instance, the United States' integration of the Daubert Standard and the strict evaluation of expert evidence greatly contrasts with the regulations present in the UK called 'Ikarian Reefer' principles whose primary tenet is the expert's obligation to assist the court in an unbiased manner. In a similar fashion, India's adoption of expert testimony is developing, however, it does not bear the stringent requisites that are characteristic of the US system.

Expert testimony may be evaluated differently in the courts of India, primarily because there are no laid down specific formalized rules regarding expert witnesses, including their qualification and code of conduct. This, however, contrasts the US emphasis on scientific testing, accuracy and reliability. Such a model could potentially guide reforms in other jurisdictions, including India, where the application of such standards may help enhance the much-needed confidence in expert evidence in the administration of justice.

2. SUGGESTIONS AND CONCLUSION

The admissibility and reliability of expert opinion in India's judicial system have far-reaching consequences for the legal process and the deliverance of substantive justice. Since issues of varying thresholds and issues of respectability of the expert testimony are challenging in India, several measures are proposed to improve the status of expert opinion in India.

There is a need for more rigorous, consistent and clear requirements which comprehensively articulate what constitutes expert opinions and the listing requirements for law courts. Some changes ought to be made in the Section 45 of the Indian Evidence Act. so that the requisites of expert opinion that qualifies for consideration are expressly stated in the act. This would enhance the coherence of legal interpretations, as recent case laws demonstrate, and help judges in making more consistent determinations when it comes to the admissibility and use of expert opinions.

In addition, creating a database of registered specialists in various fields can ensure more accountability and help build trust. This would help the courts in the process of selecting expert witnesses, as only those with adequate credentials and proven experience would be allowed to testify. Moreover, it would also minimize instances where unqualified or biased experts are engaged to influence outcomes in the courts. There can be an expert witness registration and

People v. Leahy, 234 Cal. App. 3d 1058 (1991).²⁹

certification that is put in place by a regulatory authority to guarantee the presence of unbiased experts in the area of law.

Furthermore, mandatory practical training and continuing legal education would improve understanding of the practicalities of expert testimony among judges and legal practitioners. Targeted training seminars and modules that deal with the technical and empirical evaluation of the evidence would enable judges to interrogate expert testimony with more authority, while the attorneys would be in a position to seek or defend expert evidence more effectively. The training could include the appropriate evaluation of the reliability of the evidence, detection of bias, and understanding of complicated scientific concepts.

Finally, India should attempt to formulate ethical principles for the advocates and experts by referring to the 'Ikarian reefer' case which highlights the primary duty of expert witnesses to assist the court disinterestedly and deal with facts that are relevant to the disputes of the parties. Such guidelines may be enshrined in the Indian Evidence Act or shall be enacted as rules around which the conduct of expert witnesses revolves. This would also assist in promoting integrity and impartiality of the expert witnesses which in the end raises the standard of the use of expert evidence in the courts.

To conclude, it is necessary to strengthen the existing framework of expert testimony in India in order to ensure public confidence and ensure fair deliverance of justice. In order to achieve such a practical result, it is necessary to increase the legislative precision, improve the level of openness in the selection of experts, develop the general level of legal education on the use of expert evidence and set up formulary ethical principles. Such reforms would in essence seek not only procedural fairness but also ethical fairness and as a result considerably high ethical standard of use of expert evidence would be attained, eventually benefiting the Indian jurisprudence and the society as a whole.

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