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With this thought, we hereby present to you

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# **ADMISSIBILITY OF NEUROSCIENTIFIC EVIDENCES IN COURTROOM: A CRITICAL ANALYSIS OF THE INDIAN LAW**

AUTHORED BY - PRERNA SINGH<sup>1</sup>

## **Abstract**

It is indisputable that mens rea and actus reus together constitute a punishable offence but what shall be the accord of the court if there is substantial absence of mens rea of the offender while committing an act? What shall be the possible punishment for such unintended criminals? Or if there shall be any punishment at all? The answer to such questions becomes even more critical when the offender is suffering from some mental disorder. Prevalence of mental disorder not only affects the cognitive faculties of a person but also encourages anti-social, violent, unremorseful, un-empathetic and criminal behavior. The question of concern is that whether such criminal should be excused from criminal liability at the helms of mental disorder or should he be treated alike other offenders? Another significant challenge in such cases is how to prove that the person was laboring under some mental disorder at the time of commission of the offence? A person suffering from mental disorder usually has problem in understanding, comprehending, decision making and judgment ability rendering him incapable of understanding the nature and the consequences of his acts. Thereby, it gives a direct implication of lack of mental intent and knowledge to commit that offence. To overcome all the foregoing questions and absurdities, the defense counsels have come up with neuroscientific and genetic evidences to prove the innocence of accused, which are to be adduced with the assistance of proper experts. However, the court faces several ethical and procedural challenges while admitting such evidences. This article seeks to understand the admissibility of neuroscientific evidences in Indian paradigm along with suggesting certain safeguards to combat the rampant misuse of such delicate evidences.

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## Keywords

Admissibility, conclusiveness, corroboration, evidentiary value, expert opinion, mens rea, neuroscientific evidence

## Introduction

Establishing the guilt of a person is primarily based on two key elements i.e., mens rea and actus reus. Out of these, mens rea is the foremost ingredient to be proved in order to inculcate a person. Mens rea can be defined as the ‘blameworthy state of mind’ or ‘the wrongful intention’ or ‘guilty mind’ of a wrongdoer. It basically indicates the psychological state of mind of a person while committing the crime.<sup>2</sup> Conclusively, it can be deduced that mens rea is a distinguishing element between a person having wrongful intention and a person lacking such incriminating will. As a general rule, a man is presumed to have knowledge of the nature and the results of his act and thus, is held responsible for the same. But there are certain exceptions to this rule, where a person is exempted from criminal liability if his case falls within any of the general exceptions.<sup>3</sup> The IPC 1860 provides for several general exceptions, often referred to as general defenses, which are enshrined in Chapter IV of the code.<sup>4</sup> As opposed to the rule laid down in section 103 of the IEA 1872, it is the responsibility of accused to prove that his case falls within any one of the general exceptions.<sup>5</sup> One of the most widely used general exceptions is ‘insanity’ or ‘unsoundness of mind’ as laid down in section 84.<sup>6</sup> Even the manusmriti enunciates upon the fact that a minor and an insane criminal cannot be punished and hence are immune from prosecution.<sup>7</sup> This defense of insanity is based on two main principles which are: firstly, a person’s act is not punishable unless committed with a guilty mind and secondly, “Furiosi nulla voluntas est” which means that a person of unsound mind has no free will.<sup>8</sup> The term insanity under IPC has much wider scope as it not only refers to certain mental disorders but refers to general state of mind rendering a person incapable of understanding the nature and the consequences of his acts. However, an influenced mental faculty has to be proved with the assistance of relevant medical

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<sup>2</sup> Doctrine of Mens Rea and its application under IPC, *available at*: <https://www.legalbites.in/doctrine-of-mens-rea/> (last visited on 10<sup>th</sup> March 2024)

<sup>3</sup> KD Gaur, *Indian Penal Code* 167 (Universal Law Publication, Gurgaon, 6th edn., 2018).

<sup>4</sup> Indian Penal Code, 1860 (Act 45 of 1860), ss. 76-106

<sup>5</sup> Indian Evidence Act, 1872 (Act 01 of 1872), s. 105

<sup>6</sup> Indian Penal Code, 1860 (Act 45 of 1860), s.84

<sup>7</sup> KD Gaur, *Indian Penal Code* 206 (Universal Law Publication, Gurgaon, 6th edn., 2018).

<sup>8</sup> Suresh Bada Math, Channaveerachari Naveen Kumar, *et.al.*, “Insanity Defense: Past, Present, and Future” 37 *Indian Journal of Psychological Medicine* 381-387 (2015).



evidence.

On the similar premises, use of a newer set of evidences is proliferating in the courtroom i.e. Neuroscientific evidences which act as a mitigating element in the penalizing process of the criminals. Neuroscientific evidence is basically the evidence related to the functioning of nervous system of a person in order to decrypt his behavior and the level of his understanding.<sup>9</sup> These evidences are used as an effective tool by the attorney's to save their client from punishment.<sup>10</sup> However, these evidences are met by many technical and legal challenges.

### **Admissibility of Neuroscientific Evidences In India**

The neuroscientific evidences fall within the category of medical evidences under the broader purview of expert opinion as enunciated in section 45<sup>11</sup> of the evidence law. This is because neuroscientific evidences can only be produced with the assistance of medical practitioners and allied medical techniques and processes. Neuroscientific evidences relate to the neurological aspect of mind of a person. So, these evidences require certain medical techniques such as brain scan, EEG techniques, DNA testing, gene mapping etc. Section 45<sup>12</sup> of the IEA, 1872 enunciates expert opinion as a substantial piece of evidence. Admissibility of expert opinion as evidence is based on the Latin maxim "cullibet in sua arte est credendum" which means a person having a special knowledge and skill in a particular subjects shall be trusted and relied upon by the court in matters of his sphere of study.<sup>13</sup> This section defines an expert as a person who has special knowledge, skill or experience in any science, art, trade or profession which may have been acquired by practice, observation or careful studies.<sup>14</sup> An expert witness is different than an ordinary witness. An expert is defined as a person who has acquired the ability to express an opinion by reason of his qualification, knowledge and experience but an ordinary witness does not possess this quality.<sup>15</sup> The evidences of an expert are largely based on his experience and expertise. But the evidentiary value of this evidence is to be

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<sup>9</sup> Neuroscientific Evidence In Courtroom Symposium, *available at*: <https://www.legalserviceindia.com/legal/article-1631-neuroscientific-evidence-in-courtroom-symposium.html> (last visited on 10<sup>th</sup> March 2024).

<sup>10</sup> *Ibid*

<sup>11</sup> Indian Evidence Act, 1872 (Act 01 of 1872), s. 45

<sup>12</sup> Indian Evidence Act, 1872 (Act 01 of 1872), s. 45

<sup>13</sup> Vidhika Kapoor, "Medical Evidence and it's Admissibility in Court" 4 *International Journal of Law Management & Humanities* 4603-4609 (2021).

<sup>14</sup> Batuk Lal, *Indian Evidence Law* 379 (Central Law Agency, Allahabad, 22nd edn., 2018).

<sup>15</sup> *Bal Krishna v. Radha Devi*, AIR 1989 All. 133.

decided by the court. On the same lines, Medical evidence means evidence produced by a medical expert under his testimony based on his skill, experience and knowledge.<sup>16</sup> Medical evidences often play a decisive role in criminal cases. Additionally, it is to be corroborated with the oral testimony of medical expert.<sup>17</sup>

### ***Role of medical expert***

A medical expert, who conducts medical examination of the human body and mind, is both a witness of fact and is also responsible to give opinion on certain aspects of the case. Medical evidence is quite different from oral evidence as it can be more conclusive and distinctive in character. Though medical evidence is usually an evidence of opinion<sup>18</sup> but it is false to suggest that it is merely an evidence of opinion, as it can lead to discovery of many new facts in a given case.<sup>19</sup> Though it is an advisory statement yet it plays an important part as a corroborative material. The court has to decide upon the evidentiary value of such evidence based on its own discretion. In the case of *Chimanbhai Ukabhai vs. State of Gujarat*<sup>20</sup>, medical evidence was admitted as being important for the sake of its corroborative value. In the case of *Awadhesh vs. state of M.P.*<sup>21</sup> the apex court has rightly observed that the opinion of a medical expert is not definitive and there is no irrefutable presumption that a doctor is a witness of truth, thereby, medical opinions are not always final and binding.<sup>22</sup> In another case it was held that it will be highly inappropriate to convict a person solely based on the testimony of the medical practitioner, thereby, concretizing the need of corroborative element.<sup>23</sup> This is further premised on the argument that the courts and the counsels are not experts in all disciplines; thereby suitable experts must be relied on to reach at suitable conclusions in matters of their expertise.

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<sup>16</sup> Vidhika Kapoor, "Medical Evidence and its Admissibility in Court" 4 *International Journal of Law Management & Humanities* 4603-4609 (2021).

<sup>17</sup> Aparajitha Rajagopalan and Roja.K, "A Critical Analysis of Admissibility of Medical Evidence" 120 *Journal of Pure and Applied Mathematics* 973 (2018).

<sup>18</sup> *Duraipandi Thevar vs. State of Tamil Nadu*, AIR 1973 SC 659

<sup>19</sup> *Smt. Malindra Bala Mehra vs. Sunil Chandra Ray*, AIR 1960 SC 706

<sup>20</sup> *Chimanbhai Ukabhai vs. State of Gujarat*, MANU/SC/0150/1983.

<sup>21</sup> *Awadhesh vs. state of M.P.*, AIR 1988 SC 1158

<sup>22</sup> *Ibid*

<sup>23</sup> *Mahmood vs. state of U.P.*, AIR 1976 SC 69

## **Basis for Production of Neuroscientific Evidences**

It is indisputable that Indian criminal justice system has always encouraged the admission of evidences involving latest scientific technologies. Techniques such as DNA testing, brain imaging, chemical tests, psychiatric tests, etc has been admitted in India earlier, however, these evidences also raises questions on the reliability of the same. The question of unreliability mainly arises due to the fact that the counsel producing these evidences is not experts in them. However, it must not be forgotten that these evidences are deduced after a thorough examination conducted by authorized medical practitioner expert in his field. The intersection of law and science is crucial to understand the risks associated with mental criminals and their treatment. The production and admissibility of neuroscientific evidence is largely based on defensive arguments which are stated as under:

- a) Involuntary act
- b) Absence of mens rea
- c) Defense of insanity

Furthermore, the admissibility of neuroscientific evidence largely depends upon the kind of evidence which is to be produced. Several such instances are discussed as under<sup>24</sup>:

- a) Evidences relating to neurological abnormality: These are relatively weak evidences because of the difficulty in establishing abnormality at the time of commission of the offence.<sup>25</sup>
- b) Cause and effect evidence -. This evidence is somewhat similar to the evidence of neurological disorder as it is premised on the base that people with neurological disorder exhibit antisocial behavior ultimately leading to criminality. However, in such cases, it is difficult to establish that it was not a voluntary act of the accused rather his abnormality which provoked him to commit an offence.<sup>26</sup>
- c) Effect of cause evidence - This evidence is the most desirable evidence to establish a link between neurological impairment and criminal behavior. This evidence helps to establish that a person suffering from mental disorders is likely to commit violent crimes. However, the

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<sup>24</sup> Admissibility of Neuro-scientific evidence in court, *available at* :<https://lawpulse.in/admissibility-of-neuro-scientific-evidence-in-court>

<sup>25</sup>*Ibid*

<sup>26</sup>*Ibid*

court cannot always lay over emphasis on such evidence because then all the criminals will try to escape the liability at the helms of some neurological impairment.<sup>27</sup>

- d) Legally relevant disorders - This evidence involve behavioral study of criminals associated with their ability to think, control, plan or form intentions. The main focus of such evidence is to judge the impulsivity in a person which is relative to the time and place.<sup>28</sup>

### **Implications of Neuroscientific Evidences in Adjudication**

Neuroscientific evidences are essentially exculpatory in nature. These evidences are mostly adduced by the accused to mitigate the circumstances of the case and save him from criminal liability. While deciding a case, mens rea is one of the requisites which the court has to consider mandatorily while making an order of acquittal or conviction. These kinds of evidences can often save the offender from aggravated punishments such as death sentence or imprisonment for life, simultaneously paving the way for reformation and rehabilitation of mentally ill offenders.

In the case of *Accused vs. State of Maharashtra*<sup>29</sup> it was observed that mental illness of a person acts as a mitigating element in the sentencing policy. The court has to rely on the proof of legal insanity rather than medical insanity.<sup>30</sup> If the evidence on record is not sufficient to prove the legal insanity, then the person cannot escape criminal liability.<sup>31</sup> Mere fact that an accused is behaving in an unusual manner is not enough to exculpate an accused on grounds of mental illness.<sup>32</sup> In another case an accused was acquitted on grounds of epilepsy.<sup>33</sup> In *Shrikant Anandrao Bhosale vs. State of Maharashtra*<sup>34</sup> it was observed that insanity before and after the crime also forms significant facts, however, the first thing for the court to determine is impaired faculty of mind at the time of commission of offence.<sup>35</sup> In another case of *Jai Lal vs. Delhi Administration*<sup>36</sup> the accused was acquitted of charges of murder on the grounds of mental disorder. From the foregoing discussion, it

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<sup>27</sup>*Ibid*

<sup>28</sup>*Ibid*

<sup>29</sup> *Accused X vs. The State Of Maharashtra* on 12 April, 2019

<sup>30</sup> *Surender Mishra vs. State of Jharkhand*, AIR 2011 SC 627

<sup>31</sup> *Dayabhai Chhaganbhai Thakkar vs. State of Gujarat*, AIR 1964 SC 1563

<sup>32</sup> *Hari Singh Gond vs. State of MP*, AIR 2009 SC 31

<sup>33</sup> *State Of Karnataka vs. Paramesh* on 25 September, 2020

<sup>34</sup> *Shrikant Anandrao Bhosale vs. State of Maharashtra*, (2002) 7 SCC 748

<sup>35</sup> *Ratan Lal vs State of MP JT*, 2002 (7) SC 627

<sup>36</sup> *Jai Lal vs. Delhi Administration*, AIR 1969 SC 15

is quite clear that mental disorder evidence plays a significant role in mitigating the circumstances of a case.

## **Critical Evaluation of the law on Admissibility**

In the view of the foregoing discussion, it is deduced that the court has the ultimate referendum while deciding if particular neuroscientific evidence is admissible or not. Also, the court has discretion to decide upon whether it can base the acquittal on the grounds of neuroscientific evidence or not. It places a responsibility on the court to study the law and scientific evidence in detail before placing reliance on the same. However, the appreciation of such evidences stands tempered at the hands of the challenges discussed hereunder:

### ***Ambiguous procedure***

It cannot be challenged that whenever a need to produce neuroscientific evidence arises, psychiatric techniques as well as psychiatric opinion are sought by the court as the court itself is not an expert in that aspect. Section 45 of the Indian evidence merely enunciates that who can be an expert witness; however, it does not expound in detail on the concept of procedure to be followed while summoning an expert witness. Section 91 of the CrPC empowers a court to summon any person to produce any document any time during the trial or enquiry.<sup>37</sup> Section 311 of the CrPC, 1973 empowers the court to summon witnesses at any stage during trial, enquiry or other proceedings.<sup>38</sup> This power is to be utilized with due caution and only for valid and strong reasons.<sup>39</sup> Thereby, an expert witness can also be summoned to court under the purview of these provisions only. Once the summons are received and acknowledged it is mandatory for the expert to appear before the court except in certain emergency situations. A subpoena is a part of court's procedure and failure to abide by subpoena amounts to contempt of court. After acknowledging the receipt of subpoena, the psychiatrist has to get the consent of his patient (client) for disclosing the information in the court. And if the client does not consent to it, psychiatrist is free to use his privilege unless that privilege is set aside by the court and the expert is made to depose; keeping in view that seeking the assent of the client is not a mandatory step; the expert is required to strictly follow the court orders. The expert has to undergo

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<sup>37</sup> The Code of Criminal Procedure, 1973 (Act 2 of 1974), s. 91

<sup>38</sup> The Code of Criminal Procedure, 1973 (Act 2 of 1974), s. 311

<sup>39</sup> *Ratanlal vs. Prahlad Jat*, (2017) 9 SCC 340

examination in chief, cross examination and may even be called for re-examination. Confidentiality of information has an important role to play in such cases. Section 129<sup>40</sup> sufficiently expounds upon the idea of privileged communication and lay down that no legal adviser shall be compelled to disclose any confidential communication made to him by his client; however, when he appears before the court as a witness himself, then he has to obey the orders of the court.<sup>41</sup> Such communication has to be kept barest minimum and essential. This barest minimum communication is in line with Section 25 of MHCA<sup>42</sup> which states that the medical records of a person can only be held by the patient or his nominated representative. The doctor is not allowed to disclose such confidential information of his own accord. It is further pertinent for the expert witness to note that in case of giving of false evidence several provisions of IPC can be invoked against him such as section 193, section 199, section 201 or section 204.<sup>43</sup> Furthermore such evidences act as a double edged sword. On one hand it acts as a mitigating element to save an accused from criminal liability, on the other hand, it poses a problem for the judicial system as to how far it will be good for the society to release such offenders from aggravated punishments. This conflict of notion mainly arises due to lack of proper rule and procedures for admissibility of these evidences before the court of law. One of the most glaring cases of horrendous crime by a mentally ill person in India is Surendar Koli V State of U.P.<sup>44</sup>. This case is famously known as Nithari serial murders case or Noida murder case. This case involves the brutal and bizarre offences like sexual assault, murder, cannibalism and necrophilia i.e. sexual attraction towards the dead human body. This spine chilling case gave birth to a very important question as to what is the recourse that shall be resorted to in case of mentally ill offenders.

### ***Lack of singular guidelines on admissibility for judicial officers***

The use of scientific evidence has proliferated over a period of three decades. However, such evidence and their techniques have always been criticized on the ground of their reliability. Serious criticism was faced by several neuroscientific techniques because of some ethical issues connected with them.<sup>45</sup> Challenges like accuracy, lawyers's competence, control of techniques etc are faced by this type of

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<sup>40</sup>Indian Evidence Act, 1872 (Act 01 of 1872), s. 129

<sup>41</sup> *Ibid*

<sup>42</sup> Mental Health Care Act, 2017 (Act 10 of 2017), s. 25

<sup>43</sup>Vinay Basavaraju, Arun Enara, *et.al.*, "Psychiatrist in Court: Indian Scenario" 41 *Indian Journal of Psychological Medicine* 126-132 (2019).

<sup>44</sup> *Surendra Koli vs State Of U.P.* Ors on 15 February, 2011

<sup>45</sup> Pereira, "Quality Assurance in Forensic Science" 28 *Forensic Science International* 1-6 (1985).

evidence along with other challenges such as bias or partial opinion of expert. Thereby, it is a strenuous task for the judiciary to appreciate expert evidence related to science and technology. In fact there are no set norms and guidelines for judges to follow in case of admissibility of such evidences. The main problem faced by scientific evidences in India is that who will evaluate the accuracy of such evidence i.e. whether a judge or the scientific community. It is pertinent to note that a judge cannot be expected to behave like an amateur scientist for the evaluation of neuroscientific evidence.<sup>46</sup> His decisions have to be formulated and based on careful analysis of the expert opinion. Therefore, there is a need of uniform laws and regulations to be followed during admitting neuroscientific evidence in legal proceedings. The role of a judge is not merely to admit the evidence but also to calculate its evidentiary value based on relevancy of circumstances and facts. It is however very unfortunate to mention that there is no fixed guideline or rule of law for evaluation of scientific evidences by courts.<sup>47</sup> The judge plays a gatekeeper's role in the introduction of scientific evidence before the court of law.<sup>48</sup> Judge is not only responsible to ascertain the evidentiary value but it also has to ensure that such evidences are reliable, relevant and authentic.<sup>49</sup>

### ***Misuses of Neuroscientific Evidences***

Mental disorders by way of neuroscientific evidence are the most widely used escape from criminal responsibility and nowadays it is also largely used by sane accused. It is used as a fault ground by the accused as it is a difficult task to determine whether a person is suffering from legally recognized impairment or not. Therefore the case depends upon the prudence of a judge. The plea of insanity is abused by normal accused more often. It is because of this loophole that several countries like Germany, Thailand, and Argentina has abolished insanity as a defense.<sup>50</sup> Another negative aspect of this defense is that burden of proving mental disorder lays on the accused which itself is a very difficult task. Medical insanity is easy to prove as compared to legal insanity, because of this many a

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<sup>46</sup> Admissibility Standards of Scientific Expert Evidence in Criminal Trials, *available at* : [https://www.researchgate.net/publication/340488857\\_Admissibility\\_Standards\\_of\\_Scientific\\_Expert\\_Evidence\\_in\\_Criminal\\_Trials](https://www.researchgate.net/publication/340488857_Admissibility_Standards_of_Scientific_Expert_Evidence_in_Criminal_Trials) ( last visited on 10<sup>th</sup> March 2024)

<sup>47</sup> *ibid*

<sup>48</sup> *Daubert vs. Merrell Dow Pharmaceuticals, Inc.*, 125 L Ed 2d 469 (1993)

<sup>49</sup> Admissibility Standards of Scientific Expert Evidence in Criminal Trials, *available at* : [https://www.researchgate.net/publication/340488857\\_Admissibility\\_Standards\\_of\\_Scientific\\_Expert\\_Evidence\\_in\\_Criminal\\_Trials](https://www.researchgate.net/publication/340488857_Admissibility_Standards_of_Scientific_Expert_Evidence_in_Criminal_Trials) ( last visited on 10<sup>th</sup> March 2024)

<sup>50</sup> Insanity as a defense: A loophole for criminals, *available at* : <https://dejurenexus.com/insanity-as-a-defense-a-loophole-for-criminals/> (last visited on 11<sup>th</sup> March 2024)

times a legitimate case is also charged and punished.<sup>51</sup> As a consequence, insanity or mental disorder as a defense has become a loophole for the criminals and is often misused. Since unsoundness of mind has no clear definition in section 84, it further enhances the problem. What makes the situation more complicated at times is that in this defense the accused clearly accepts the commission of crime but evades from accepting the knowledge of consequences and this raises brow of any right-minded rationale person in the society.<sup>52</sup>

### ***Inconclusiveness of evidence: springing the need for corroboration***

Indian courts strongly believe that conviction or acquittal of an accused cannot be solely based on the expert testimony regarding scientific evidence unless it is coupled with some corroborative evidence.<sup>53</sup> The value of expert opinion lies in the exact observation which he makes himself rather than what he merely surmises.<sup>54</sup> Expert opinion is evidence which is not conclusive in nature rather it has to be corroborated with evidence of the like nature.<sup>55</sup> Therefore, they cannot be taken as a substantive piece of evidence unless supported with other evidences. The opinions formulated and testified by an expert are not binding on a judge and hence the weight of the testimony is to be determined by the judge based on proportionate reasoning. Since brain scans can be prepared and read by medical experts only, the reports regarding the same are also to be produced by them only. Hence, no expert testimony can be relied upon without the examination of an expert witness before the court.<sup>56</sup> It is pertinent to note that the court must examine and interpret expert evidence in the same way as any other piece of evidence.<sup>57</sup> Corroboration is an important standard for admissibility of scientific evidence in India.<sup>58</sup> This rule of corroboration basically acts as a restraint on misuse of neuroscientific evidences in the favor of accuse.<sup>59</sup> In the landmark decision of apex court in *Magan Bhiarilal vs. State of Punjab*<sup>60</sup> it was observed that rule of corroboration has developed into a widely accepted rule of law which helps the court to reach at a conclusion in relying on a neuroscientific

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<sup>51</sup> *Ibid*

<sup>52</sup> *Ibid*

<sup>53</sup> *S. Gopal vs. State of A.P.*, AIR 1996 SC 2148

<sup>54</sup> Batuk Lal, *Indian Evidence Law* 392 (Central Law Agency, Allahabad, 22nd edn., 2018).

<sup>55</sup> *Ibid*

<sup>56</sup> *State of Maharashtra vs. Damu Gopinath Shinde*, AIR 2000 SC 1691

<sup>57</sup> *Malay Kumar Ganguly vs. Sukumar Mukherjee*, AIR 2010 SC 1162

<sup>58</sup> *State of Maharashtra vs. Sukhdeo Singh*, AIR 1992 SC 2100

<sup>59</sup> Donald Shelton, "Twenty-First Century Forensic Science Challenges for Trial Judges in Criminal Cases: Where the 'Polybutadiene' Meets the 'Bitumen'" 18 *Widener Law Journal* 309-396 (2009).

<sup>60</sup> *Magan Bhiarilal vs. State of Punjab*, 1977 AIR 1091



evidence. Further in the case *Forest Range Officer vs. P. Mohhamad Ali*<sup>61</sup> it was rightly observed by the Hon'ble Court that expert opinion provides assistance to the court in finding certain important facts however, it does not assist the court in analyzing the same. Rule of corroboration has a major role to play in matters of expert opinion in section 45 of the Indian evidence law though corroboration has not been set out in express manner as a sine qua non for matters of expert opinion.<sup>62</sup>

## Suggestions

In the process of admissibility of neuroscientific evidences, a judge faces numerous challenges starting from evaluating its reliability to establishing its legal relevance in connection to the facts in issue. The challenges faced are lack of system or technique of collection, reliability, integrity and competence of lawyers. The judicial trends in India are indicative that judges hesitate in relying on expert opinion solely for conviction or acquittal. There is no hard and fast rule as to corroboration also. The challenges faced by judges in admission of scientific evidence cannot be overcome unless judges are provided with relevant training and knowledge about the technical and procedural aspects of scientific or medical evidences.<sup>63</sup> A techno-legal approach towards admission of neuroscientific evidence is to be adopted to ensure correct influence on expert opinion in criminal proceedings.

Generally it is believed that neuroscientific evidence is unreliable but this notion has changed with the scientific developments and advancements taking place. In reality, medical evidence is superior to ocular evidence because it objective, reliable, accurate and provable. Due to lack of system and function for adduction of neuroscientific evidence, it has been falsely suggested that is merely a circumstantial evidence.<sup>64</sup> The matter of evidentiary value of neuroscientific evidence is guided by

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<sup>61</sup> *Forest Range Officer vs. P. Mohhamad Ali*, 1994 AIR 120

<sup>62</sup> Corroboration apropos forensic evidence: implications and precautions, available at: <https://deliverypdf.ssrn.com/delivery.php?ID=145065017119112027097115020072004027008078002074040050125083064031026027111065014099043027042032027032054066123020004003029113040087059020045095084097015065004083076019073080065077083025112120117122067120116025096124000084125097101082124011099013000086&EXT=pdf&INDEX=TRUE> (last visited on 11<sup>th</sup> March 2024).

<sup>63</sup> C.E. Pratap, "Evaluating the Scientific Validity of Forensic Evidence in Criminal Trials: Issues and Challenges" 4 *MJl* (Crl) 5-13 (2018).

<sup>64</sup> Corroboration apropos forensic evidence: implications and precautions, available at: <https://deliverypdf.ssrn.com/delivery.php?ID=145065017119112027097115020072004027008078002074040050125083064031026027111065014099043027042032027032054066123020004003029113040087059020045095084097015065004083076019073080065077083025112120117122067120116025096124000084125097101082124011099013000086&EXT=pdf&INDEX=TRUE> (last visited on 11<sup>th</sup> March 2024).

principle of reliability and probability.<sup>65</sup> Faulty determination and appreciation of evidence can prove to be detrimental for the criminal justice process. To avoid absurd results, certain reforms in the Indian law on the admissibility of such evidences are suggested:

- Proper guidelines and standards must be made for evidence collection and techniques to be used in neuroscientific evidences. These techniques must be based on probable scientific principles.
- Standards and guidelines for the judges shall be made to assist them in evaluating the evidence and appreciating it adequately.
- The National Physical laboratory India must ensure scientific assessment of forensic professionals and their competence.
- Substantial penalties and procedures shall be developed to condemn the wrongful use of neuroscientific evidences and procedure must be stringent in case of violation of forensic code and doing unethical practices.
- Research in the field of medicine and science shall be funded at large scale to ensure that the scientific principles remain up to date and no such technique is adduced which has become obsolete or violates the rights of person under scrutiny.
- Mental disorder data shall be reviewed from time to time. Judges must be acquainted with the same.
- A post-conviction review of cases has to be introduced to ensure the mental health of criminals after conviction.

### **Conclusion**

Presently, Indian criminal justice system is not merely concerned with crime prevention but it also focuses of criminal correction. Whenever an offence is committed by a person under the influence of some mental disorder, his counsel seeks to produce evidence relating to his mental abnormality. This entire issue is of great importance because Indian legal system is premised on the ethos of 'let hundreds of criminals go unpunished but an innocent person shall not be punished'. It becomes even more important for the Indian judiciary to consider such neuroscientific evidences in the light of the

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<sup>65</sup>Koehler J., "If the Shoe Fits They Might Acquit: The Value of Forensic Science Testimony" 8 *Journal of Empirical Legal Studies* 21-48 (2011).

ongoing debate on criminal reformation and rehabilitation. However, due to lack of adequate procedural norms and rules for the admissibility of brain evidences in the court of law, it becomes an even more cumbersome process for the judicial officers to offer equitable justice. Though section 45 of the Indian evidence law read with certain provisions of CrPC and IPC provides provisions for expert opinion, yet it is not sufficient enough to encompass all the technicalities related to the neuroscientific evidences. There is an urgent need for the legislature to bring clarity in this regard and frame adequate legal provisions so as to avoid further misapplications of law.

