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## FORENSIC LAW

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## I INTRODUCTION

FORENSIC EVIDENCE despite being mute is a potent force for establishing the truth in the administration of justice. The opinion of medical and forensic experts, as corroborative evidence, enables the court to question the probity of testimonial witness. The battery of forensic techniques cumulatively braces the integrity of chain of evidence for establishing a case beyond reasonable doubt. At global landscape, the judicial fraternity has strongly relied upon scientific opinion for corroboration to buttress the truth. Sir Alfred Wills had culled out five rules for probity assessment for circumstantial evidence.<sup>1</sup> The apex court in India has also formulated conditions for circumstantial evidence based conviction in a catena of decisions.<sup>2</sup> In the *State of Madhya Pradesh v. Kailash*,<sup>3</sup> the court referred to ‘*Panchsheel*’ with regard to circumstantial evidence supported by forensic opinion to uphold the conviction. The Supreme Court has

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1 Sir Alfred Wills (ed.), “Will’s Circumstantial Evidence” (The Boston Book Company: Jamaica Plain, USA, 5th ed., 1905). Five guidelines include: (i) the facts alleged as the basis of any legal inference must be clearly proved and beyond reasonable doubt connected with the *factum probandum*; (ii) the burden of proof is always on the party who asserts the existence of any fact, which infers legal accountability; (iii) in all cases, whether of direct or circumstantial evidence the best evidence must be adduced which the nature of the case admits; (iv) in order to justify the inference of guilt, the inculpatory facts must be incompatible with the innocence of the accused and incapable of explanation, upon any other reasonable hypothesis than that of his guilt; and (v) if there be any reasonable doubt of the guilt of the accused, he is entitled as of right to be acquitted.

2 *Sharad Birdichand Sarda v. State of Maharashtra*, AIR 1984 SC 1622 at 1656. *Panchseel*, for deciding a case based on circumstantial evidence, culled out in *Shivaji Sahebrao Bobade v. State of Maharashtra*, AIR 1973 SC 2622: (1973) 2 SCC 793; *Hanumant v. State of M. P.*, AIR 1952 SC 343; *Padala Veera Reddy v. State of A.P.*, AIR 1990 SC 79; *Sunil Clifford Daniel v. State of Punjab* (2012) 11 SCC 2015.

3 Cr.A. No.996/2016 decided on Oct 20, 2016 by High Court of Madhya Pradesh (Indore Bench).

observed that “Human agency may be faulty in expressing picturisation of actual incident but the circumstances cannot fail. Therefore, many a times, it is aptly said that men may tell lies, but circumstances do not.”<sup>4</sup> However, sanctity of the forensic samples and validation of scientific procedures are vital challenges before courts for adjudicating in circumstantial evidence based cases.

The veracity and hostility of witness pose a global challenge to judiciary since long.<sup>5</sup> M. Jagannadha Rao J, the then chairman of the Law Commission of India, has emphasised upon the significance of forensic evidence in adjudication as under:<sup>6</sup>

I want to say something about the need to use DNA. I think one way of getting round the problem of hostile witnesses is to go in for DNA fingerprints tests in every case, if such evidence is available. Today, the extensive use of DNA in almost every trial in other countries has changed the entire prosecution process. I am quite sure that DNA will put an end to the menace of hostile witnesses substantially. A person can be held not guilty where the DNA does not match. Where the DNA matches, it being a probability, guilt can be established if there is corroborative evidence, circumstantial or direct. DNA should be used extensively in the years to come and I am sure that such use will enable us to break through the present crisis created by hostile witness.

The present survey encompasses an investigative account of various judgements of the Indian constitutional courts during 2016 using forensic and medico-legal evidence for adjudicating in both criminal and civil disputes. About 35 cases have been reported in this survey year which is being deliberated hereunder. Significant among them are legal precepts namely privacy rights in biological sample collection, fairness in investigation and forensic analysis, paternity determination of a child both in civil and criminal matters, hostility of witnesses, probative value of expert opinion on hand writing and CCTV footage, termination of rape induced pregnancy and patent disputes on bio-similar drugs and recombinant DNA related products.

## II ISSUES RELATED TO CRIMINAL ADJUDICATION

### **Right to privacy in collection of biological samples**

The biological samples for conducting forensic examinations entail several privacy issues and thus informed consent of the subject warrants importance. The

4 *Afiab Ahmed Ansari v. State of Uttaranchal*, AIR 2010 SC 773; (2010) 2 SCC 583.

5 G.K. Goswami, “Forensic Law”, *LI ASIL* 598 (2015).

6 Justice Rao stated his opinion in a seminar titled, “Witness Identity Protection and Witness Protection Programmes” organised by the Andhra Pradesh State Judicial Academy, Hyderabad, on Jan 22, 2015 has been referred in *Saranya v. State of Tamil Nadu* 2016 SCC OnLine Mad 23294. (2016) 5 LW 721; (2016) 6 CTC 503.

seminal issue of prior consent in consonance with the right against self incrimination and testimonial compulsion under article 20(3) of the Indian Constitution has earlier been settled by the apex court.<sup>7</sup> However, the issue of prior consent is frequently raised in the courts, irrespective of civil or criminal nature of the matter, for collecting DNA and other biological samples. In *Selvi v. State of Karnataka*,<sup>8</sup> the apex court had observed that a fundamental premise of the criminal justice system is that the police and the judiciary are empowered to exercise a reasonable degree of coercive powers. It is further stated that under section 132 of the Indian Evidence Act, 1872 a witness has no right to remain silent like that of an accused. The legislative intent is to preserve the fact finding function of a criminal trial. In an appeal, the High Court of Madras in *Saranya v. State of Tamil Nadu*<sup>9</sup> has observed that:

On a reading of sections 91 and 311 of the Cr PC on the touchstone of the principle laid down in Fatehsinh Mohansinh Chauhan's case, Savitri's case and Sakiri Vasu's case, the power of a criminal Court to send a witness for DNA profiling can be traced to s. 91 and the second limb of s. 311 of the Cr PC.

An appeal was filed before the High Court of Punjab and Haryana raising multiple legal issues including direction to the appellant by the trial court to give blood sample for DNA analysis without taking his consent.<sup>10</sup> The appellate court held that in a criminal case, the DNA test can be ordered by the court and if an accused refuses then he can be physically compelled to undergo the DNA test. Subjecting an accused to DNA test does not violate article 20(3) of the constitution and the use of DNA analysis faces no obstacle under section 45 of the Indian Evidence Act, 1872. Nevertheless, in civil matters, consent of the subject for conducting DNA test remains necessary, which shall appropriately be deliberated during subsequent section of the survey.

The High Court of Madras responded to a seminal legal issue holding that sending an accused to hospital for forensic sampling does not amount to police custody within meaning of section 167 of the CrPC and blood sample of the accused for DNA testing may be collected even after lapse of 15 days of remand period.<sup>11</sup> In the interest of justice, DNA sample may be collected at any stage of investigation, if need be, since drawl of blood sample from the accused person does not attract violation of article 21 or 20(3) of the Indian Constitution. However, the appeal was allowed since court

7 *The State of Bombay v. Kathi Kalu Oghad*, AIR 1961 SC 1808; *Selvi v. State of Karnataka* (2010) 7 SCC 263; See also, G.K. Goswami, "Forensic Law", LI ASIL 623 (2015).

8 (2010) 7 SCC 263 at 360.

9 (2016) 6 CTC 503. See *supra* note 6, para 53.

10 *Anil Kumar v. State of Haryana* 2016 (3) RCR (Criminal) 808.

11 *Kannan v. State by the Inspector of Police* 2016 (2) MLJ (CrI).

discarded the matching DNA report on the grounds of inherent lacunae in collection and preservation of biological samples from the spot and overall failure of prosecution in proving case the beyond a reasonable doubt.

#### **DNA led paternity determination in criminal case**

In the last three decades, DNA has become a gold standard to connect rape induced pregnancies with the perpetrators. In *Amarmani Tripathi v. State through CBI*,<sup>12</sup> DNA linked the foetus of the deceased poetess with that of accused leading to a successful conviction. In 2016, a seminal question arose before the High Court of Madras whether a criminal court can direct a prosecution witness and her child along with the accused to undergo DNA test for determining paternity of the child.<sup>13</sup> A minor girl was in love with the accused and allegedly succumbed to carnal demands of the accused on the promise to marry but later he retracted. She gave birth to a child but refused to recognize the accused as her husband during investigation. She was neither *de facto* complainant nor the one who had set the criminal law in motion, but trial court summoned her as prosecution witness. Before the Child Welfare Committee (CWC), she accepted her relationship with the accused and that later on their marriage was solemnized. During her statement under section 164(5) of the CrPC she stated that the accused is her maternal uncle and she has nothing more to say. She further deposed that she never had physical relationship with the accused, who was her maternal uncle and had identical name as her husband. The trial judge, for the purpose of identification of the accused, ordered DNA test. The accused did not object but the girl filed objection against the order for subjecting herself and her child to DNA test, as that would invade her privacy and may have consequence of bastardising the child, contrary to the best interest of the child as directed in the *Goutam Kundu* and the *Sharda* case.<sup>14</sup>

In this appeal, the High Court of Madras referred *Willie (William) Slaney v. State of Madhya Pradesh*,<sup>15</sup> where the constitution bench of the Supreme Court has observed that the code is a code of procedure and, like all procedural laws, is designed to further the ends of justice and not to frustrate them by the introduction of endless technicalities. The high court further observed that the source of power for a criminal court to subject a witness and her child to DNA analysis flows from section 91 read with the second limb of section 311 the CrPC and section 45 of the Evidence Act, 1872. The appeal was dismissed approving the order of the trial court to conduct the DNA test.

12 (2005) 8 SCC 21.

13 *Supra* note 6.

14 *Goutam Kundu v. State of West Bengal* (1993) 3 SCC 418; *Sharda v. Dharampal* (2003) 4 SCC 493.

15 AIR 1956 SC 116.

**Forensic aids for fair investigation**

Fair and transparent investigation is the precursor to fair trial.<sup>16</sup> The expression “fair and proper investigation” in criminal jurisprudence mainly has two imperatives; *firstly* that investigation must be unbiased, honest, just and in accordance with law; and *secondly*, the entire emphasis has to bring out the truth of the case before the court of competent jurisdiction ensuring that the guilty are punished.<sup>17</sup> The apex court has emphasized on ‘fair, fructuous, and competent’ investigation.<sup>18</sup> Poor quality of collection of evidence frustrates the very purpose of investigation, poignantly raised several times by the apex court which emphasized on periodic training of investigators and prosecutors to instil fairness in criminal justice administration.<sup>19</sup> However, it is not only the responsibility of investigating agency but also of the courts, which must ensure fair investigation.<sup>20</sup>

In 2016, the apex court in *Pooja Pal v. State of Uttar Pradesh*<sup>21</sup> has emphasized the importance of scientific aids to investigation by citing the “Criminal Investigation - Basic Perspectives: authored by Paul B. Weston and Renneth M. Wells as under:<sup>22</sup>

The joining of science with traditional criminal investigation techniques offers new horizons of efficiency in criminal investigation. New perspectives in investigation bypass reliance upon informers and custodial interrogation and concentrate upon a skilled scanning of the crime scene for physical evidence and a search for as many witnesses as possible. Mute evidence tells its own story in court, either by its own demonstrativeness or through the testimony of an expert witness involved in its scientific testing. Such evidence may serve in lieu of, or as corroboration of, testimonial evidence of witnesses found and interviewed by police in an extension of their responsibility to seek out the truth of all the circumstances of crime happening. An increasing certainty in solving crimes is possible and will contribute to the major deterrent of crime - the certainty that a criminal will be discovered, arrested and convicted.

16 G.K. Goswami, “Fair and Participatory Investigation: The New Paradigm towards Internal Police Reforms” in Shankar Sen (ed.), *Police Reforms* 131-160 (2016).

17 *Samaj Parivartan Samudaya v. State of Karnataka* (2012) 7 SCC 407; *Vinay Tyagi v. Irshad Ali* (2013) 5 SCC 762.

18 *Rajiv Singh v. State of Bihar* 24 2015(13) SCALE 901; 2015 (12) JT 305 ; (2015) SCC OnLine 1336; *Amitbhai Anilchandra Shah v. Central Bureau of Investigation* (2013) 6 SCC 348. G.K. Goswami, “Forensic Law” *LIASIL* 602 (2015).

19 *Rajiv Singh v. State of Bihar* 2015 SCC OnLine SC 1336.

20 *Manu Sharma v. State of NCT of Delhi* (2010) 6 SCC 1.

21 (2016) 3 SCC 135; (2016) 1 SCC (Cri) 743.

22 *Id.* at 179.

Laying emphasis on the tenets of fair investigation, the Supreme Court held that apart from fair trial fairness in investigation is also a part of constitutional rights enshrined under articles 20 and 21 of the constitution of India. Therefore, investigation must be fair, transparent and judicious as it is the minimum requirement of rule of law. The investigating agency cannot be permitted to conduct an investigation in a tainted and biased manner. Where non-interference of the court would ultimately result in failure of justice, the court must interfere.<sup>23</sup> The apex court had also observed the duty of the investigating officer is not merely to bolster up a prosecution case with such evidence as may enable the court to record conviction but to bring out the real, unvarnished truth.<sup>24</sup> The Supreme Court in the *Best Bakery* case<sup>25</sup> had observed that the perfunctory and partisan role of the investigating agency, improper conduct of trial by the public prosecutor and breakdown of the state machinery for ensuring security of the star witnesses resulted into mass hostility of prosecution witnesses in the case.

The High Court of Patna has underlined linkage between fair investigation and fair trial in *Param Pal Singh Gandhi v. The State of Bihar*<sup>26</sup> as under:<sup>27</sup>

The Constitution of India, under article 21, guarantees a right to fair trial to an accused. A fair trial is impossible if there is no fair investigation. In order to be a fair investigation, the investigation must be conducted thoroughly, without bias or prejudice, without any ulterior motive and every fact, surfacing during the course of investigation, which may have a bearing on the outcome of the investigation and, eventually, on the trial, must be recorded contemporaneously by the investigating officer at the time of investigation. A manipulated investigation or an investigation, which is motivated, cannot lead to a fair trial.

In an appeal, the identification of the accused was challenged before the Supreme Court on the ground that provisions of section 5 of the Identification of Prisoners Act, 1920 for taking finger prints were not observed.<sup>28</sup> The apex court set aside the order passed by the Armed Force Tribunal and relied upon test identification parade to uphold the conviction. On procedural lapse like not taking photograph of the chance fingerprint, the apex court held that criminal trials should not be made a casualty for such lapses in the investigation or prosecution.<sup>29</sup>

23 *Babubhai v. State of Gujarat* (2010) 12 SCC 254. (para 45).

24 *Jamuna Choudhary v. State of Bihar* (1974) 3 SCC 774: AIR 1974 SC 1822.

25 *Zahira Habibulla Sheikh v. The State of Gujarat* (2004) 4 SCC 158.

26 2016(4) PLJR 1026.

27 *Id.*, para 20.

28 *Ajay Kumar Singh v. Flag Officer Commanding* (2016) 9 SCC 179.

29 *Id.* para 17.

An appeal was filed before the High Court of Jammu and Kashmir raising the legal issue of evidentiary value of statement of a minor rape victim recorded under section 164-A of the CrPC., who passed away before appearing in the witness box.<sup>30</sup> During trial, on the information of death, her name was conveniently deleted from the list of witnesses and trial court in the acquittal order did not take notice of her statement. The apex court has culled out guidelines using powers under article 142 of the Constitution, directing police authorities of all states for compliance of recording statement of rape survivor under section 164 of the CrPC before Magistrate, preferably judicial magistrate within 24 hrs of reporting of incident.<sup>31</sup>

The High Court of Jammu and Kashmir in an appeal held that “Statement recorded under section 164-A of the CrPC is to be given same treatment and is of same evidentiary value as statement recorded under section 164 of the CrPC. The only difference between the two provisions is that while section 164 of the CrPC is an enabling provision, section 164-A of the CrPC is mandatory in character. Nature and value of statement recorded under the provisions remains same.”<sup>32</sup> The high court allowed the appeal, set aside the acquittal order of the trial court and remanded the case for a fresh trial. The court directed the investigating officer to investigate the death of the victim under section 173(8) of the CrPC and in case evidence proves the allegations than her statement recorded under section 164-A of the CrPC would become relevant under section 32, of the Evidence Act, 1872 as well. The high court further observed that:<sup>33</sup>

The investigating officer could have with least difficulty, with the assistance of the doctor,...obtained sample/tissue from the foetus for DNA profiling/matching with the sample taken from the respondent. Such a course would have helped the investigating officer to produce more convincing evidence before the trial court regarding the result of investigation and also the trial court to arrive at just conclusion. The investigating officer has very conveniently ignored this aspect of the case, possibly because the investigating officer, had either no idea about the technique available or did not have will to use the technique and instead proceeded with the investigation in a slipshod and routine manner. What is true about the present case is equally true about more than 90% of the criminal cases that end in acquittal of the accused because of faulty investigation or casual and half-hearted prosecution.

30 *Sakeena v. Mohammad Hussain Sheikh* 2016 (1) JKJ 415.

31 *State of Karnataka v. Shivana @ Tarkari Shivana* (2014) 8 SCC 913.

32 *Supra* note 30, para 9.

33 *Id.*, para 34.

Emphasizing upon the scientific aids of investigation, the high court has also observed:<sup>34</sup>

Before parting with the judgement, it is necessary to point to failure of the investigating officer to employ modern and scientific techniques, now available, to dig out and unravel true facts and ensure that the effort made while investigating the matter and thereafter prosecuting it before the trial court does not go waste. The object of criminal justice system is to punish a person guilty of an offence so that sentence awarded on his conviction by trial court works as a deterrent against other potential offenders and also to reform the person convicted so that he is reclaimed by the society. It is, therefore, necessary that investigating officer, acting as first Judge of the case, undertakes impartial, dispassionate but serious exercise, employing all the techniques available under law, to lay bare true facts before the trial court and also indicate with sufficient clarity the evidence by which he proposes to prove the results of investigation.

The High Court of Karnataka has also emphasized the need of having graduate degree in science and law as eligibility qualifications necessary for recruitment of Sub Inspectors as investigator. The High Court of Madras in an appeal has strongly deprecated on shoddy investigation as neither test identification parade was conducted for detection of unknown accused by the eye witnesses, nor the fingerprints of appellant were collected to match with the one seized from the scene of crime.<sup>35</sup> In *Murugesan v. State by the Inspector of Police*,<sup>36</sup> the two chance fingerprints were lifted from the pestle and were found matched with that of accused. However, the court could not rely upon the opinion of fingerprint expert since the police constable who took the alleged admitted finger prints from the accused was not examined. The appeal was allowed and conviction and sentence imposed by trial court was set aside.

#### **Expert opinion based adjudication**

In series of cases, the interest of justice was debilitated due to shoddy investigation and slapdash expert opinion. In *Prem Singh v. State of NCT*,<sup>37</sup> the appellant-convict for rape alleged the investigating officer to have forcibly collected his semen and planted in the condom shown to have been recovered from the scene of murder of a pregnant woman and later used for DNA test. However, for reasons unknown, DNA test of the content in a second condom recovered from the spot was

34 *Id.*, para 31.

35 *Supra* note 11.

36 MANU/TN/0626/2016. Criminal Appeal No. 630 of 2012 decided on Mar. 1 2016.

37 (2016) 235 DLT 467 (DB).



not conducted by the prosecution. The DNA of foetus of the deceased did not match with the accused or the husband-co-accused raising doubt regarding involvement of a third person in the incident. The medico-legal report of the accused indicated scratch marks on the body but due to considerable time gap from the date of the incident, the accused could not explain the scratch marks. The appellate court allowed the appeal observing that mere contact on phone between accused persons alone may not suffice as the motive. The court referred to Modi's Medical Jurisprudence<sup>38</sup> for possible technical errors in conducting DNA analysis, but without examining these errors in the instant case, the court ruled out the DNA report as well as the recovery of mobile phone of the deceased from the accused. Earlier the apex court had held that the evidence of an expert witness cannot be contradicted merely by adumbrating to certain passages in a treatise on the subject without those passages being confronted to the expert witness.<sup>39</sup>

In case of alleged rape,<sup>40</sup> DNA profiles were obtained from the undergarment of the prosecutrix and the accused and 7 out of 15 markers in allelic data were found matched. The trial court relied upon the testimony of the prosecutrix for conviction in addition to partial DNA profile match. The high court held the DNA report inconclusive excluding it from incriminating evidence in addition to other contradictions and allowed the appeal by acquitting the accused. Indeed, lack of accreditation of forensic laboratories and scientific procedures apart from poor professional skills of the scientific experts are the root cause for shoddy expert opinion which necessitates urgent intervention of executive and judiciary for upgrading the forensic facilities and expertise.

An appeal came before the High Court of Delhi against the conviction for committing rape on a four year old girl.<sup>41</sup> No injury or bruise on the genital or even bruise was reported in the medical report and even hymen was found intact. However, at the introitus of the victim, some human semen was found. The slides prepared from vaginal smear of the victim were found to contain human semen. Surprisingly in FSL (forensic science laboratory) report on serology, the blood group of the accused was mentioned but report remained silent on the blood group found on the content of vaginal smear. The appellate court dismissed the appeal relying upon the credible oral evidence of the victim and other witnesses. However, the vital question remained unanswered that in the national capital city, where scarcity of forensic facility may not be an excuse, under what circumstances DNA profiling and proper serological analysis were not conducted to find out the truth. Even the judgement remained silent on the point of shoddy scientific opinion indicating only that the use of medico-legal and forensic facilities need up-gradation and that there is a need for capacity building among all actors involved in the administration of justice.

38 *Id.* para 50.

39 *Kusa v. State of Orissa* (1980) 2 SCC 207.

40 *Beerbali v. State of NCT* 2016 SCC OnLine Del 3157.

41 *Rajesh @ Tinku v. State of NCT of Delhi* 2016 SCC OnLine Del 5131.

### Usage of multiple forensic tools for establishing truth

Multiple forensic tools help to foster fairness in evidence collection and also in proving a fact beyond reasonable doubt. In *Chandrakant Jha v. State of NCT*,<sup>42</sup> an appeal was preferred against conviction order of trial court in three offences committed within one year by the same accused. Decapitated torsos were recovered in front of Tihar Jail in three different instances. Two letters of extrajudicial confession were seized from the place of incidents; and two phone calls were received at police station expositing the motive and intent of serial murders using caustic and derogatory language castigating and panning Delhi Police. The accused was identified by police with the help of multiple forensic footprints picked up from the handwriting on the letters, electronic records, forensic expert reports etc. Tattoo marks helped in identifying the unknown headless torso together with matching of the fingerprints of the corpse with the dossiers maintained in jail and DNA profile match with his children. Subsequently the jaw and a skull were recovered the bank of river Yamuna as per information given by the accused. DNA profiles of jaw and skull was matched with the torso establishing involvement of the accused in killing of both persons. On the objection of not conducting test identification parade (TIP) raised by the defense, the observation of the apex court was found relevant holding that identification of an accused in the court by a witness constitutes substantive evidence and TIP is not a rule of law, but a rule of prudence.<sup>43</sup> Failure to hold a test identification parade would not make the evidence of identification inadmissible in the court.<sup>44</sup> The appeal was dismissed by the High Court of Delhi but death penalty was modified to life imprisonment for remainder of his natural life.

### Human identification

Correct human identification for various purposes remains a challenge for adjudication. Serology and DNA tests to some extent have helped to establish identity but require reference or control sample to match with questioned or unknown sample. During 2016, Indian courts have relied upon DNA and other forensic techniques for connecting crime with criminal and identification of unidentified bodies of the deceased victims.<sup>45</sup> The High Court of Karnataka dismissed the appeal in *Shiva Kumar v. State of Karnataka*,<sup>46</sup> since cluster of evidence collected by prosecution with the help of multiple forensic tools like DNA match, call detail records (CDRs) analysis and soil

42 2016 SCC On Line Del 500.

43 *State v. Sunil Kumar* (2015) 8 SCC 478; *Kulwinder Singh v. State of Punjab* (2015) 6 SCC 674; *Matru alias Girish Chandra v. State of UP* 1971 AIR 1050 : 1971 SCR(3) 914 .

44 *Malkhan Singh v. State of M.P.* AIR 2003 SC 2669. (para 7).

45 *State of Jharkhand v. Raju Singh* 2016 SCC On Line Jhar 654; *Kamlesh v. State of UP* 2016 (6) ALJ 328 : 2016 (95) ALLCC 714; *Ravishankar @ Baba Vishwakarma v. State of Madhya Pradesh* 2016 Criminal Appeal no. 2175/ 2016.

46 2016 SCC On Line Kar 2122.

testing had established guilt of the accused beyond reasonable doubt. Similarly use of multiple forensic techniques led to upholding the conviction and death penalty treating the case as 'rarest of rare' by the High Court of Bombay where a child was kidnapped for ransom and later murdered by the accused persons.<sup>47</sup>

In *Gaya Prasad Pal @Mukesh v. State of NCT Delhi*,<sup>48</sup> an appellant step father was convicted by the trial court for sexually abusing his 14 years old step daughter, impregnating her, causing her to give birth to a child. DNA helped in proving accusation beyond doubt since prosecutrix and accused were established as biological parents of the child. The High Court of Delhi dismissed the appeal but expressed anguish for disclosing the identity of the victim prosecutrix in the trial court judgement and emphasized on in-camera proceedings under section 327 of the Cr PC. The Protection of Children from Sexual Offence Act, 2012 imposes a statutory responsibility on the special court to ensure non-disclosure of identity of a child at any time during the course of investigation or trial.<sup>49</sup>

#### **Ocular testimony *vis-a-vis* medical expert opinion**

Inconsistencies between medico-legal report and the statements of victim or ocular witness pose a dilemma before a court as to who shall be relied upon. In *State of Haryana v. Bhagirath*,<sup>50</sup> it has been held that the opinion given by a medical witness need not be the last word on the subject and must be tested by the court. In case the opinion is bereft of logic or objectivity, the court is not obliged to go by that opinion.<sup>51</sup> In a plethora of cases the Supreme Court has observed that convincing evidence is required to discredit an injured witness.<sup>52</sup> The apex court, in *State of U.P. v. Hari Chand*,<sup>53</sup> had reiterated the aforesaid position of law by observing that in any event unless the oral evidence is totally irreconcilable with the medical evidence, it has primacy.

In a rape with murder case, seminal stains were not found on the vaginal fluid, vaginal smear and pubic hair of the deceased girl. However, seminal stain found on the panties of the deceased matched with DNA profile of the accused therefore together

47 *Arvind v. State of Maharashtra* Criminal Appeal. No. 140 and 103 of 2016, 2016 LawSuit (Bom) 636.

48 2016 SCC OnLine Del 6214; (2016) 235 DLT 264 (DB); (2017) 1 RCR (Cri) 233 (DB); (2016) 160 DRJ 541.

49 S. 33(7) of The POCSO Act, 2012: The Special Court shall ensure that the identity of the child is not disclosed at any time during the course of investigation or trial: Provided that for reasons to be recorded in writing, the Special Court may permit such disclosure, if in its opinion such disclosure is in the interest of the child. Explanation: For the purposes of this sub-section, the identity of the child shall include the identity of the child's family, school, relatives, neighbourhood or any other information by which the identity of the child may be revealed.

50 (1999) 5 SCC 96.

51 *Id.* at 101.

52 *Abdul Syeed v. State of M.P.* (2010) 10 SCC 259 at 270.

53 (2009) 13 SCC 542.

with other unimpeachable circumstantial evidence, conviction was upheld by the appellate court.<sup>54</sup> The spermatozoa could not be traced on the private parts since the dead body was drowned in water, tied up with a bicycle.

#### **Forensic evidence to counter hostile victim**

In several cases, under duress or other extraneous compulsions, the rape survivors turn hostile during trial, admitting of false accusation. In such cases, the scientific evidence greatly helps the courts to establish truth. A thirteen years old prosecutrix was sexually abused for nearly two years under coercive threat by her father in *Pappu v. State of NCT*.<sup>55</sup> The rape survivor during investigation had deposed before the court under section 164 of the Cr PC. supporting the allegations and DNA profiles from vaginal swab and semen stains found on her clothes were matched with that of the accused. The medico-legal examination also reported of torn hymen corroborating the accusation. However, during the trial, the sterling witnesses including prosecutrix turned volte-face blaming the victim for false accusation. The court dismissed the appeal and upheld the conviction based on forensic findings of unimpeachable character. Thus scientific evidence in sync with cross examination of hostile prosecution witness helps the court in corroborating facts before reaching to the truth.

#### **Issues related to veracity of CCTV footage for identifying an accused**

In the era of electronic surveillance, CCTV footage has proved to be a useful scientific tool to identify an unknown perpetrator. In *Ramkumar v. State through ASP Nungambakkam Range*,<sup>56</sup> a blind homicide case, police got inkling of the petitioner-accused based on a video footage recovered from a CCTV camera installed near the place of incident. For the purpose of identity, the forensic expert advised for collecting video and photographs of the suspect-petitioner and police sought court's permission under section 5 of the Identification of Prisoners Act, 1920 read with section 54-A of the Cr PC. Relied upon *Ritesh Sinha v. State of Uttar Pradesh*,<sup>57</sup> the petitioner contested

54 *Manivel v. The State through Dy SP of CBCID Trichy* 2017 (1) MLJ (CrI) 668; MANU/TN/4053/2016.

55 2016 SCC OnLine Del 3008.

56 MANU/TN/1723/2016.

57 (2013) 2 SCC 357. Ranjana Prakash Desai J of the double bench, applying purposive interpretation, justified the order of trial court for submitting voice sample by observing, "Criminals are using new methodology in committing crimes. Use of landlines, mobile phones and voice-over internet protocol in the commission of crimes like kidnapping for ransom, extortion, blackmail and for terrorist activities is rampant." Desai J further emphasized upon the necessity to strike a balance between the need to preserve the right against self-incrimination and need to strengthen hands of the investigating agency to bring criminal to book. However, Aftab Alam J set as aside the trial court order having reservation for inventing law through interpretative device in absence of express or evidently applicable legal provision in the field. He, in the light of *Bindeswar Prasad Singh v. Kali Singh* (1977) 1 SCC 57 and *Adalat Prasad v. Roop Jindal* (2004) 7 SCC 338 and *Sakiri Vasu v. State of UP* (2008) 2 SCC 40 observed that the subordinate courts do not have such inherent powers. In view of difference of opinion between both judges, the case was referred to larger bench of the apex court and verdict is still awaited.

against the order of the trial court alleging violation of fundamental right under article 21 of the Indian constitution.

The apex court in the *Ritesh* case had observed that voice sample is like finger print impression, signature or specimen handwriting of an accused. Like giving of a finger print impression or specimen writing by the accused for the purposes of investigation, giving of a voice sample for the purpose of investigation cannot be included in the expression “to be a witness”.<sup>58</sup> By giving voice sample the accused does not convey information based upon his personal knowledge which can incriminate him. A voice sample, being non-testimonial identificatory physical evidence, by itself is fully innocuous. It appears that biological sample, if innocuous and non-invasive in nature and does not potentially reveal personal information, it may not violate article 20(3) of the Constitution. However, the issue is still *sub-judice* before a larger bench of the apex court.

The high court allowed the police to take video-graph, photograph and measurements with the help of technical expert to seek forensic opinion. The court observed that:<sup>59</sup>

The Identification of Prisoners Act was passed in the year 1920, when photography was the only technology available. Today, technology has improved by leaps and bounds and it will be an anachronism to hold that photography will not include video-graphy. The taking of video-graph per se will not make the suspect criminally liable.

#### **Probative value of handwriting expert: Legal position**

The expert opinion on handwriting and signature has duly been recognised under Indian legal lexicon. In *SPS Rathore v. CBI*,<sup>60</sup> the apex court has observed that:<sup>61</sup>

Expert evidence as to handwriting is only opinion evidence and it can never be conclusive. Acting on the evidence of any expert, it is usually to see if that evidence is corroborated either by clear, direct or circumstantial evidence, the sole evidence of being of a certain person or not. A court is competent to compare the disputed writings of a person with others which are admitted or proved to be his writings. ... It is opinion evidence and it can rarely, if ever, take the place of substantive evidence... It is thus clear that uncorroborated evidence of a hand writing expert is an extremely weak type of evidence and the same should not be relied upon either for the conviction or for acquittal... It can rarely,

58 *Id.* at 368.

59 *Supra* note 56, para 15.

60 (2017) 5 SCC 817.

61 *Id.* paras 47, 50.

if ever, take the place of substantive evidence. Before acting on such evidence, it is usual to see if it is corroborated either by clear, direct evidence or by circumstantial evidence.

The court also referred that the evidence of a handwriting expert, unlike that of a fingerprint expert, is generally of a frail character and its fallibilities have been quite often noticed. The courts should, therefore, be wary of giving too much weight to the evidence of handwriting expert.<sup>62</sup>

A vital issue was raised before High Court of Madras regarding non-availability of any identifiable fingerprint of an accused from crime scene leading to failure of the prosecution case.<sup>63</sup> The high court rejected the plea by referring to the *Gade Lakshmi Mangraju @ Lakshmi v. State of A.P.*,<sup>64</sup> where the Supreme Court had observed that presence of a fingerprint at the scene of occurrence is positive evidence. But the absence of a fingerprint is not enough to foreclose the presence of the persons concerned at the scene. If during perpetration of the crime the fingerprint of the culprit could possibly be remitted, it is equally possible that such a remnant would not be remitted at all. Hence absence of finger impression is not a guarantee of absence of the person concerned from the scene. The issue of collecting samples of fingerprint by police was raised in *Rupa v. State of TN represented by the Inspector of Police*.<sup>65</sup> Referring to *Mohd. Aman v. State of Rajasthan*,<sup>66</sup> the High Court of Madras held that under section 4 of the Identification of Prisoners Act, 1920, the police is competent to take specimen fingerprint of the accused and not necessary to obtain an order from magistrate in this regard.<sup>67</sup>

In yet another appeal, a legal issue before the Supreme Court was raised whether the judicial/executive magistrates are authorized to take specimen writing and signatures of an accused during the investigation of the case when no matter is pending before them.<sup>68</sup> In 2005, in accordance with the suggestion of the apex court in the *State of Uttar Pradesh v. Ram Banu Misra*,<sup>69</sup> section 311-A of the Cr PC was introduced, from the prospective effect, enabling the magistrate of first class to order a person to give specimen of signatures or handwriting.<sup>70</sup> However, section 73 of the Evidence Act, 1872, also enables the court to direct a person to submit samples of his handwriting and signature for purposes of comparison. The apex court in the impugned

62 *Bhagwan Kaur v. Maharaj Krishan Sharma* (1973) 4 SCC 46 at 53.

63 *V. Muthuselvam v. State of TN represented by Inspector of Police* 2016 SCC OnLine Mad 7045.

64 (2001) 6 SCC 205.

65 *Rupa v. State of TN represented by the Inspector of Police* 2016 SCC OnLine Mad 13284.

66 (1997) 10 SCC 44.

67 *Supra* note 65, para 25.

68 *Sukh Ram v. State of Himachal Pradesh* (2016) 14 SCC 183.

69 (1980) 2 SCC 343.

70 The Act no.25 of 2005 with effect from June 23, 2006.

case upheld the conviction and dismissed the appeal by validating the authority of the executive magistrate to take specimen signature of the witness during the course of investigation. In absence of specific provisions, the rights of accused persons are prone to subjective view of judges.<sup>71</sup>

### **Termination of rape induced pregnancy: Role of medical expert**

The ongoing debate between 'pro-life' and 'pro-choice' was settled in *Roe v. Wade*,<sup>72</sup> a watershed judgement which legalized abortion in the United States.<sup>73</sup> Article 2 of the Abortion Act, 1967 of the United Kingdom also falls short of conferring an absolute right to life to the unborn child and the European Court in *Paton v. United Kingdom*<sup>74</sup> endorsed the legislative intent. The right to life of foetus is subject to an implied limitation of allowing the pregnancy to be terminated in order to protect the life of a mother.<sup>75</sup> In other jurisdictions also the bodily integrity of the pregnant mother is preferred over that of the foetus.<sup>76</sup>

Indian law treats abortion as legal if the pregnancy is the result of a crime of rape, but with competent consent of the rape survivor or her parents/legal guardian in case of incapacity to consent.<sup>77</sup> Explanation under section 3 of the Medical Termination of Pregnancy Act, 1971 provides that in case of pregnancy alleged by the pregnant woman to have been caused by rape, the anguish caused by such pregnancy shall be presumed sufficient to constitute a grave injury to the mental health of the pregnant woman. In the existing conflict between the right to life of rape survivor mother and the unborn child, the provisions under section 5 of the Act, 1971, yields in favour of the mother. However, second trimester abortions in India are still difficult, life-threatening and costly.

The apex court has laid down theory of the 'Best Interest Test' for courts to ascertain the course of action for serving the best interests of the child in question.<sup>78</sup> The case before High Court of Gujarat in *Bhavikaben v. State of Gujarat*<sup>79</sup> was that a

71 *Supra* note 53.

72 410 U.S 213 (1973).

73 *Supra* note 5 at 611.

74 (1980) EHRR 408. Other relevant cases are: *Evans v. Amicus Healthcare Ltd.* [2004] EWCA Civ 727; *In Re A (Minors)* (Cojoined Twins : Medical Treatment) [200] EWCA Civ. 254.

75 *H v. Norway* [(1992) 73 DR 155].

76 *Morgentaler Smoling and Scott v. R* (1988) 44 DLR (4th) 385; *R.R. v. Poland* No.27617/04 [2011] ECHR 828.

77 Medical Termination of Pregnancy Act, 1971, s. 3 of the requires: (a). permission of one doctor if pregnancy is less than 12 weeks and (b). permission of minimum of 2 doctors if the pregnancy is more than 12 weeks but less than 20 weeks gestation period; to opine and carry out termination of pregnancy. S. 5 of the MTP Act carves out an exception for carrying out termination of pregnancy required immediately to save the life of a pregnant woman irrespective of the length of pregnancy.

78 *Suchita Srivastava v. Chandigarh Administration*, 2009 (3) GLH 468.

79 2016 SCC OnLine Guj 3601.

minor girl was allured and raped by the accused on the pretext of false promise to marry. Consequently the victim became pregnant but accused refused to marry her. She consumed acid to end her life and suffered from serious damage to her vital organs. The mother of the victim prayer in the High Court of Gujarat for allowing termination of victim's pregnancy under the MTP Act on the ground of protecting the interest of her physical and mental health. The court sought opinion of medical experts on termination of pregnancy of 24 weeks who recommended for termination. Keeping the best interest doctrine into consideration, the court allowed termination of pregnancy under proper medical care and to preserve the DNA sample of the foetus for the purpose of identification.

In *R v. State of Haryana*,<sup>80</sup> a prayer for termination of advance stage pregnancy of a rape survivor came up before the high court. Despite indications of grave possibility of harm to the patient due to social and emotional consequences of continuation of pregnancy, the court did not grant permission to terminate the pregnancy due to advanced stage of nearly 25 weeks. However, the court referred the matter to AIIMS, New Delhi to take appropriate decision. The court further emphasized upon the need for periodically organizing seminars for investigating agencies, doctors, lawyers and judicial officers who have occasion to deal with such cases in order to educate them about relevant legal provisions. The high court further emphasized the need for sensitizing about the urgency and immediate need of counselling and other medical assistance required for a rape victim. The court issued the directives that the central government is to consider for making amendments to the Medical Termination of Pregnancy Act, 1971(MTP Act) and clarify in so many words to the doctors that they will not be unnecessarily prosecuted if they act in accordance with the rules in good faith to save the life of a victim of rape or to prevent grave injury to her physical and mental health. Termination of pregnancy in good faith which results from crime is otherwise permitted under the provision of the MTP Act.<sup>81</sup>

### III ISSUES RELATED TO CIVIL ADJUDICATION

#### **Role of DNA test in paternity determination**

The presumption of legitimacy of a child has been a vital legal issue for adjudication since time immemorial. Serological analysis and DNA Profiling have helped to resolve this conundrum to some extent. These scientific tools investigate genetic make-up of a child, however, legitimacy necessitates that a child be presumed begotten within lawful wedlock between the mother and the father under normal circumstances of presumption of legitimacy *vis-a-vis* scientific paternity determination. Such juxtaposed situation contradicts with the best interest of the child branding him a fatherless identity especially when dispute arise between married couple. Lord Reid

80 IV (2016) CCR 142 (P&H); 2016 (3) RCR (Criminal) ALJ1.

81 *Id.*, para 42 (viii).



in *S. v. McC*,<sup>82</sup> had observed that if one knew or suspected that on the other evidence the child would be held to be illegitimate then it would be in the child's interest to have a blood test because that would afford some chance that the decision would go the other way. It further stated that the court must protect the child, but it is not really protecting the child to ban a blood test on some vague and shadowy conjecture that it may turn out to be to its disadvantage, it may equally well turn out to be for its advantage or at least to do it no harm. In series of cases, over last three decades, Indian courts have dealt with this vital issue but law is yet to answer the complex questions likely to be faced due to the multiplicity of parentage arising out of third party intervention in procreation exposed by DNA.<sup>83</sup>

DNA test for paternity determination is a panacea for the doubting husbands, whereas section 112 of the Evidence Act, 1872 rests upon the conclusive presumption of legitimacy if child is begotten within lawful wedlock irrespective of genetic contribution by the husband. DNA determines genetic make-up of a child but section 112 presumes legitimacy of the child. The judgement in *Goutam Kundu v. State of West Bengal*,<sup>84</sup> is *locus classicus* for ordering DNA led paternity determination. However, the *Sharda v. Dharmapal*<sup>85</sup> ignited a debate on presumption of legitimacy and DNA led genetic truth of a child.<sup>86</sup> Subsequently, preferring science over legal presumption, the Supreme Court had observed that:<sup>87</sup>

Interest of justice is best served by ascertaining the truth and the court should be furnished with the best available science and may not be left to bank upon presumptions, unless science has no answer to the facts in issue. In our opinion, when there is a conflict between a conclusive proof envisaged under law and a proof based on scientific advancement accepted by the world community to be correct, the latter must prevail over the former.

In a rendition matter, the High Court of Himachal Pradesh set aside the order of the civil judge regarding denying the plaintiff-husband permission to conduct DNA test of his wife for determining paternity of a minor child under section 45 of the Evidence Act, 1872 read with section 151 of the CPC. In the light of various leading judgements of the apex court on the subject, DNA test was allowed. The respondent husband, in yet another appeal,<sup>88</sup> got decree of dissolution of marriage under section 13 of the Hindu Marriage Act, 1956 on the grounds of cruelty alleging his wife living

82 [1972] A.C. 24, 42.

83 G.K. Goswami, "The Genetic Truth of Surrogate Parentage", 83(4) *MLJ* 188-193 (2015).

84 1993 AIR 2295: (1993) 3 SCC 418.

85 AIR 2003 SC 3450: (2003) 4 SCC 493.

86 G.K. Goswami, "Forensic Law", *LASIL* 649-672 (2014).

87 *Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik* (2014) 2 SCC 576 at 586.

88 *Kavita Devi v. Anil Kumar*, 2016 SCC OnLine Del 4865.

in adulterous life with his brother and alleged not to be the biological father of three children begotten out of their wedlock.<sup>89</sup> The husband got DNA test conducted from a private lab and report excluded him as the biological father. However, DNA test was conducted without court order and blood sample of a three year old child was extracted on false pretext of consent from both parents but consent of the appellant mother was never obtained. The high court observed that neither DNA was conducted as per law nor report was proved by the expert. The claim of impotency of the respondent was not medically examined. The appellate court allowed the appeal and set aside the decree of divorce by observing that instead of husband suffering cruelty; the wife and children have suffered cruelty from the husband in connivance with his brother in questioning the paternity of the children.

Preferring scientific value of DNA for finding the truth, the protective cocoon of legitimacy under section 112 was criticized by the apex court by observing that 'Truth must triumph' is the hallmark of justice.<sup>90</sup> In the instant case, the trial court could not appreciate the due procedure necessary for conducting DNA test otherwise the Supreme Court had already approved infidelity as a ground for divorce by observing that:<sup>91</sup>

DNA test as the most legitimate and scientifically perfect means for husband to establish his assertion of infidelity. This should simultaneously be taken as the most authentic, rightful and correct means also with wife, for her to rebut the assertions made by the respondent - husband, and to establish that she had not been unfaithful, adulterous or disloyal.

#### **DNA in maintenance cases**

In India, husbands prefer launching *lis* for avoiding maintenance to their wives and children on the pretext of alleged adultery and child birth out of illicit relationship of wife. The same grounds are also raised for seeking divorce from the wives. Civil laws dealing with marriage and divorce are religion driven, hence lack uniformity. It is observed that many judgements of superior courts are judge-centric varying in their ratio resulting in further litigations. Synergy between law and scientific advancement is the need of the hour in the realm of justice especially in family laws related issues. The High Court of Madras, in *Harikrishnan v. G. Murthy*,<sup>92</sup> an appeal against the

89 Hindu Marriage Act, 1955, s. 13 reads: "Divorce - (1) Any marriage solemnised, whether before or after the commencement of this Act, may, on a petition presented by either the husband or the wife, be dissolved by a decree of divorce on the ground that the other party - 1(i) has, after the solemnisation of the marriage, had voluntary sexual intercourse with any person other than his or her spouse; or 1(ia) has, after the solemnisation of the marriage, treated the petitioner with cruelty; or....."

90 *Supra* note 84, para 19.

91 *Dipanwita Roy v. Ronobroto Roy* (2015) 1 SCC 365 at 378.

92 2016 SCC OnLine Mad 8848.

maintenance order of the family court, has observed that the deserted women cannot be allowed to be left in the lurch by profligate men. The appellate court did not find any reason to interfere with the well merited order passed by the trial court. Therefore the appeal was dismissed. It was further held that in case of failure of petitioner - husband to undergo DNA test, trial court may draw adverse inference against him.

#### IV JUDICIAL OBSERVATIONS ON ALLIED ISSUES

##### **Disputes related to patent rights**

In the era of bio-technology and bio-medicines, several disputes related to genetic makeup of products are knocking at the doors of the courts. The bio-similar products and patent rights infringements along with the purity issues appear to be the modern day challenges for adjudication. In an injunction petition filed before High Court of Delhi, misrepresentation in making of bio-similar version of plaintiff's biological drug Trastuzumab (trade names Herceptin® and Biceltis®)<sup>93</sup> as Bmab-200/CANMAB by the defendants was the subject matter of the plaint.<sup>94</sup> Term 'Similar Biologics' is not defined under the Drugs and Cosmetic Act, 1940 and the Rules. The defendant contended that the entire suit is fishing expedition based on speculations, and plaintiffs without exhausting the statutory remedy to represent before the central government have approached the court to enjoy the perpetual monopoly to market the drug at exorbitant rates contrary to the public interest. The suit was disposed of without granting injunction. However, the field of bio-medicines and other products have potential for litigation and DNA based bio-markers need to be designed to solve such riddles.

#### V CONCLUSION

This survey year reveals that over the years, forensic evidence has increasingly assisted Indian judiciary for ensuring justice while adjudicating on both civil and criminal disputes. However, the superior courts have emphasized upon fairness and quality control during forensic analysis and investigation. Failure to take advantage of modern scientific aids for collection and appreciation of evidence has many a times resulted in miscarriage of justice and further compounded the despair if an innocent person is falsely implicated and at times even made to face incarceration. The time is ripe to provide for strict punitive action against investigating officers and forensic experts who intentionally indulge in foul play in handling evidences, leading to a travesty of justice. The courts must embark upon superintendence of evidence collection for ensuring justice.<sup>95</sup>

93 Trastuzumab is a monoclonal antibody, produced by recombinant DNA technology and primarily used for treatment of HER 2 positive breast cancer. Biological drugs are synthesized by the cells or living organisms as contrary to drugs produced by chemical synthesis.

94 *Roche Products (India) Pvt. Ltd. v. Drugs Controller General of India*, 2016 SCC OnLine Del 2358.

95 *Sakiri Vasu v. State of U.P.* (2008) 2 SCC 409; *CBI v. R.K. Yadava* (2016) 226 DLT 506 : (2016) 154 DRJ 252 : 2015 SCC OnLine Del 14360.

The survey also deliberated the cases involving of rape induced pregnancy and child birth. Legal provisions must be in place for ensuring pregnancy test at appropriate time as part of medico-legal examination of rape victim. Under the MTP Act, there is no requirement to take court's permission for medically assisted abortion, if minor pregnant victim and her guardian are consenting.<sup>96</sup> The lawyer must abstain from filing gratuitous applications for seeking court permission to abort pregnancy within twenty weeks of gestation. The actors of criminal justice system including police officers and medical practitioners must be sensitized on the issue. Further MTP must be included in the list of medical conditions covered under insurance schemes of medical health care.

Paternity determination using genetic markers broadly has double impact on the society. On the one hand, DNA has helped in stitching the perpetrator to establish his illicit intent for having carnal relationship with victim woman. On the other hand, paternity determination by DNA test of a child born within lawful wedlock based on alleged fornication on the part of wife creates confusion due to contradiction within the existing law of presumption of legitimacy. The approach of the apex court portrayed in the *Nandlal Badwaik* and the *Dipanwita Roy* may be justifiably argued based on the level playing field between husband and wife for refusing maintenance or granting decree of divorce based on DNA proven infidelity but it is likely to subvert the best interest of the child by stigmatizing him a 'fatherless child' after exclusion by DNA and affecting his battery of civil rights. It is humbly requested that courts must refrain from doing injustice to an innocent child, grinding between the two stones of the mill. The multiplicity of ratio of judgements has befuddled the trial courts and legislation must resolve the issue for finality. It may be considered that entry of marriage and birth of a child to the couple to be made compulsory in the records of municipality and may also be linked with AADHAR. In the light of scientific advancement and intervention of technology in human reproduction there is a dire need to overhaul and modernize the family laws.

In the field of forensics, several facets need attention. Scientific experts of many domain areas of forensics have not yet been recognized under section 45 of Evidence Act, 1872 and section 293 of the CrPC. The issue of maternity determination must get berth in Indian legal lexicon especially in the context of surrogacy. In the age of bio-medicines and bio-products, a series of patent right disputes can be expected in future. Hence the issue needs to be suitably addressed at the legal front and research must find a way to introduce forensic tool kits for testing authenticity of recombinant DNA based 'designer drugs'. Scientific temper including forensic utility in justice system must be promoted with the help of media and school curriculum to empower common citizenry.

96 *Bashir Khan v. State of Punjab* 2014 (4) R.C.R. (Crim.) 148. See also, *Vijender v. State of Haryana* 2015 (1) R.C.R. (Civil) 163.