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FORENSIC LAW

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I INTRODUCTION

“And when we try to define ‘evidence’...we find it very difficult.”¹

“EQUALITY, JUSTICE AND LIBERTY” remain vital trinity for evidence based fair trial entailing triangulation of interest of victim, accused and society at large.² Evidence is the ‘heart and soul’ of justice since truth - the epicenter of justice - revolves around the veracity and reliability of evidence.³ Epistemologically, evidence signify factual justification and validation. Evidence permeates and ensures logical reasoning in decision making. The concept of evidence is central to both epistemology and philosophy of science. ‘Proof’ in *stricto sensu* is the effect and derivative of evidence.⁴ Proof is an ‘intangible’ fact that demonstrates something to be real or true, while evidence is ‘tangible’ information leading to believe something to be true or real. Indeed, evidence may be tentative but proof is final and conclusive for finding truth. In other words, evidence is an embodiment for proof. Certainty, neutrality and objectivity in evidence are kernel elements for reliability of evidence to yield proof. Chief Justice Lord John Fletcher Moulton observed that “proof does not mean rigid mathematical formula since that is impossible; mean such evidence as would induce a reasonable man to come to a

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1 R.G. Collingwood, *The Idea of History* 279 (Oxford University Press, 1946).

2 *Mohd. Firoz v. State of Madhya Pradesh* (2022) 7 SCC 443 at para 50.

3 *Krishna Iyer J. in Jasraj Inder Singh v. Hemraj Multanchand*, (1977) 2 SCC 155 described interconnect between truth and justice as: “8. ...Truth, like song, is whole, and half-truth can be noise! Justice is truth, is beauty and the strategy of healing injustice is discovery of the whole truth and harmonising human relations. Law’s finest hour is not in meditating on abstractions but in being the delivery agent of full fairness”.

4 In *Ved Parkash Kharbanda v. Vimal Bindal* [2013 SCC On-Line Del 994 at para 11- : (2013) 198 DLT 555], High Court of Delhi examined the scope of Sections. 3, 114 and 165 of the Indian Evidence Act to discover the truth.

particular conclusion”.⁵ Reasonable man of ordinary prudence is a legal fiction representing a common person with ordinary degree of reason, care, prudence and foresight, and consideration.⁶

In judicial dominion, evidence may broadly be categorized as: (i) oral testimony, (ii) documentary, and (iii) material evidence (including bodily substances and other physical objects). Oral testimony especially eyewitness is old-age tested evidence admissible in the courtroom. Considering several limitations such as personal vendetta, duress, misidentification, planted witness⁷ etc., of oral testimony there is dire need for corroboration through circumstantial analysis to connect missing links of the chain of crime events. A man may tell a lie but the circumstances can never. Thus, corroboration got evidentiary credence and persists in judicial practices since ages, especially after *The King v. Baskerville*,⁸ corroboration almost became a rule of law. Circumstantial evidence, as observed by Lord Coleridge, is “like a gossamer thread, light and as unsubstantial as the air itself and may vanish with the merest of touches”.⁹ The judge further observed that such evidence may be strong in parts but it may also leave great gaps and rents through which the accused may escape. In *Nandu Singh v. State of M.P.*¹⁰ the court held that in a case of direct evidence motive would not be relevant, however, for circumstantial evidence motive acts as vital link to complete the chain of events. Considering

5 *Hawkins v. Powells Tillery Steam Coal Co. Ltd.* (1911) 1 K.B. 988. Also see: In *Vishwanath Gupta v. Cegat* [2000 SCC On-Line Del 490 para 5: 2000 Supp (56) DRJ 287 (DB) : 2000 (71) ECC 491], High Court of Delhi observed, “Prove” means to establish as true by argument or evidence, to subject to a testing process”.

6 A. L. Epstein, “The Reasonable Man Revisited: Some Problems in the Anthropology of Law” 7(4) *Law and Society Review* 643-666 (1973). Also see: *Vaughan v. Menlove* (1837) 132 ER 490 (CP); and *United States v. Caroll Towing Co.* 159 F. 2d 169 (2d Cir. 1947).

7 *Khema alias Khem Chand v. State of Uttar Pradesh* 2022 SCC On-Line SC 991 para 5. Also see: *Prem Chand (Paniwala) v. Union of India* (1981) 1 SCC 639: 1981 SCC (Cri) 239 is a famous case of stock witness.

8 [1916] 2 K. B. 658. Also see: *Gopal Krishna Patar v. Union of India* 2022 SCC On-Line Jhar 1087: (2022) 2 JBCJ 647 (HC).

9 *OS v DS* [2004] EWHC 2376 (Fam).

10 2022 Live Law SC 229. Also see: *S. Kaleeswaran v. State by the Inspector of Police Pollachi Town East Police Station, Coimbatore District, Tamil Nadu* 2022 SCC On-Line SC 1511.

significance of circumstantial scrutiny in judicial system, certain rules have been evolved by the judiciary for appreciation of circumstantial evidence.¹¹

The Supreme Court in *Sharad Birdhichand Sarda* case held that the court must ensure before conviction that the accused “must be” guilty and not “may be” guilty and conclusively there should not any other hypothesis inconsistent to his guilt.¹² There is not only a grammatical but a legal distinction between “may be proved” and “must be or should be proved” as was held by the Supreme Court in *Shivaji Sahabrao Bobade v. State of Maharashtra*.¹³ “Certainly, it is a primary principle that the accused *must* be and not merely *may* be guilty before a court can convict and the mental distance between ‘may be’ and ‘must be’ is long and divides vague conjectures from sure conclusions”. Even under the ancient system of administration of criminal justice, the benefit of doubt was always given to the accused.¹⁴

A judge delivers judgment and its good luck of the party to the *lis*, if get justice, and this unadorned truth justify for very existence of the doctrine of appeal in the higher court. In other words, judgment is not *sine qua non* to justice especially in adversarial system of criminal adjudication, where a judge plays neutral role like an umpire who largely depends upon (i) the evidence collected by the investigator or presented by the parties, and (ii) the legal contest between the defense lawyer and the prosecution. Thus, veracity of evidence remains fulcrum of justice that perpetually continued to be a utopian expectation. Indeed, Forensic

11 The Supreme Court of India in *Sharad Birdhichand Sarda v. State of Maharashtra* [(1984) 4 SCC 116; 1984 SCC (Cri) 487; 1984 AIR 1622; 1985 SCR (1) 88], at para 153, has culled out five guideline for the courts below to follow for appreciating circumstantial evidence:

- (1) the circumstances from which the conclusion of guilt is to be drawn should be fully established.
- (2) the facts so established should be consistent only with the hypothesis of the guilt of the accused, that is to say, they should not be explainable on any other hypothesis except that the accused is guilty,
- (3) the circumstances should be of a conclusive nature and tendency,
- (4) they should exclude every possible hypothesis except the one to be proved, and
- (5) there must be a chain of evidence so complete as not to leave any reasonable ground for the conclusion consistent with the innocence of the accused and must show that in all human probability the act must have been done by the accused.

Also see: *Holand v. United States* 348 US 121 (1954); *Chandru Chandrasekaran v. State of Tamil Nadu* (2019) 15 SCC 666; *Pralhadrao Wasnik v. State of Maharashtra* (2019) 12 SCC 460; *Satish Kumar v. State of HP* (2020) 12 SCC 637; *Vaishnav v. State of Chhattisgarh* (2019) 4 SCC 522.

12 *Id.* at para 153. Also see: *Pappu v. State of Uttar Pradesh* 2022 LiveLaw (SC) 144.

13 (1973) 2 SCC 793.

14 “India of Vedic Kalpsutras” (National Publishing House, Delhi: 1959 at p 201. Apastamba laid down that *Nh Ch Sandehe Dandam Kuriyat* (the king should not punish any person in case of doubt).

Science plays dominant role for corroboration with reasonable certainty and reliance to reach out to truth. It equips neutral and reliable validation through impartial expert opinion to establish both culpability or innocence.¹⁵ Culpability necessitates ‘beyond reasonable doubt’ standard of evidence, but ‘preponderance of probability’ suffices innocence of a defendant. Since 1986, DNA got evidentiary credence; and recently High Court of Bombay in *Ashwin v. State of Maharashtra* well admired DNA evidence as under:¹⁶

DNA is the genetic blue print for life and is contained in every cell of the body. No two persons, except identical twins can have identical DNA. Therefore, DNA profiling is an extremely accurate method to draw comparison of a suspect’s DNA with crime scene specimen, victim’s DNA in the form of a blood stain, semen or any other part of the body of the accused. DNA evidence is as such now a predominant forensic technique for identifying criminals based on the biological tissues left behind at the scene of the crime or for the purpose of identifying the source of blood found on any article or clothes etc. either found on the spot or recovered from the accused or from the witnesses. DNA analysis of the samples such as saliva, skin, blood, hair or semen with certainty, not only helps to convict the criminal, but also to extend benefit to the criminal.

Since 2020, Covid-19 pandemic has badly impacted human affairs posing eminent threats to life and resources across globe. Court proceedings at every level got affected, and for advancing justice online hearings in the Indian courts were practiced. During 2022, in India initially online hearings were observed, but later once normalcy was restored, in-person hearings were resumed. During the extant Annual Survey, nearly 300 judgments on forensic issues delivered by the Supreme Court of India and various high courts during 2022 have been reviewed to deliberate upon emerging trends on seminal issues like legal enigma involved in forensics, ascertaining DNA based paternity, age determination, criminal adjudication and several procedural complexities involved therein.

II PROCEDURAL ENIGMA RELATED TO FORENSICS

Doctrine of self-incrimination and right to privacy

During investigation police allegedly use third degree methods (intimidation and bodily violence) to extract facts related to a crime including confession of guilt under various settings such as socio-political and official pressure including prevailing corrupt practices. Scientific methods of investigation especially use of multi-pronged forensic inputs may limit wide range of police discretion during collection of oral evidence. Despite the right against testimonial compulsion, police

15 GK Goswami, and Aditi Goswami, “Taking Injustice Seriously: Proving Innocence of Wrongly Convicted Persons” in Dilip Ukey, Chirag Bayan and Melissa Walavalkar (eds.) *Revisiting Reforms in the Criminal Justice System in India* 34-50 (Thomson Reuters, Legal: South Asia, 2020).

16 2022 SCC On-Line Bom 1525 at para 41: (2022) 3 Bom CR (Cri) 112.

collect evidence even by violating privacy domain of a person. Article 20(3) of the Indian Constitution and section 161(2) of the Criminal Procedural Code protect a person from sharing his 'personal knowledge' without volition through 'oral testimony' during crime investigation or trial proceedings.¹⁷ The Supreme Court of India has declared right to privacy as a fundamental right, being an integral part of right to life under Article 21 of the Constitution.¹⁸ Forensic techniques are contested in the courts on the basis of violation of privacy right especially against ordering for DNA test or Deception Detection Techniques (DDTs). However, for paternity determination of foetus or child by DNA in criminal matters, right to privacy may not be treated equal for a civil dispute raised by the husband against his wife to prove her infidelity through testing paternity of the child, or to settle disputes for inheritance for property devolution. In *Jio C. George v. State of U.P.*,¹⁹ the Allahabad High Court held that the right to privacy of accused is not violated to give biological sample for DNA matching to determine paternity of a child borne as a consequence of repeat rape either by blackmailing or intimidation to a married prosecutrix. The court permitted DNA test after observing, "...therefore scientific method must be used to unearth the truth because justice is best served by truth".²⁰

Jurisprudence dealing with DNA testing for paternity determination distinctly varies for civil disputes and criminal conduct. Indeed, in allegations of rape induced pregnancy DNA undeniably unveil the male contributor (biological or putative father – genitor) responsible for conception. Consent of subject to collect DNA is more confined in civil matters, and on refusal to undergo DNA test, an adverse presumption under section 114 of the Indian Evidence Act, 1872 may be drawn against the subject. Further, in a rape case, the blood sample of an accused must be collected and his medico-legal examination must be conducted irrespective of his consent under section 53-A CrPC; but the consent of major prosecutrix or the parents or legal guardian in case she is a minor, is mandatory under section 164-A of procedure code both for collecting blood sample and conducting bodily medico-legal test.²¹ Irrefutably, one must be cautious that the case laws²² related to paternity

17 *Selvi v. State of Karnataka* (2010) 7 SCC 263. Also see: In *Schmerber v. California* [16 L Ed 2d 908: 384 US757 (1965)], majority opinion (Brennan, J.) relied on a distinction between evidence of a "testimonial" or "communicative" nature as opposed to evidence of a "physical" or "real nature", concluding that the privilege against self-incrimination applied to the former but not to the latter.

18 *Justice K. S. Puttaswamy (Retd.) v. Union of India* (2017) 10 SCC 1.

19 2022 SCC On-Line All 822.

20 *Id.* at para 10.

21 *Vishal v. State of West Bengal* 2022 SCC On-Line Cal 4127 at para 30.

22 *Goutam Kundu v. State of West Bengal* (1993) 3 SCC 418 at para 26: 1993 AIR 2295 1993 SCR (3) 917 1993 SCC (3) 418 JT 1993 (2) 443 1993 SCALE (2) 994 ACT; *Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik* (2014) 2 SCC 576; *Dipanwita Roy v. Ronobroto Roy* (2015) 1 SCC 365: (2015) 1 SCC (Civ) 495: (2015) 1 SCC (Cri) 683; *Sharda v. Dharmpal* (2003) 4 SCC 493; *Bhabani Prasad Jena v. Orissa State Commission for Women* (2010) 8 SCC 633: (2010) 3 (Civ) 501: (2010) 3 SCC (Cri) 1053; *Kamti Devi v. Poshi Ram* AIR 2001 SC 2226; *Narayan Dutt Tiwari v. Rohit Shekhar*, (2012) 12 SCC 554,

dispute of a child between husband and wife broadly classify as a civil dispute under section 112 of the Indian Evidence Act, 1872, and does not attract criminal proceedings.

Chain of custody of recoveries

Procedural inviolability is the backbone for admissibility of expert opinion, and protection of chain of custody is yardstick to evaluate the sanctity of forensic samples. In *Manoj v. State of Madhya Pradesh*,²³ an appeal against conviction in a grisly murder and robbery case was partly allowed by the apex court, since the defense raised the issue on truncated recovery by police from crime scene on the behest of the disclosure statements of the accused. The sealing of artifacts and their chain of custody of samples also allegedly compromised by the prosecution, and photographs of the recovery items were published in local media. The recovery memos were not produced before the magistrate violating the necessity desired under section 102(3) of the procedure code.²⁴ On several grounds the defense argued for drawing adverse inference against lapses and omissions allegedly committed by the prosecution.

Inculpatory versus exculpatory evidence

The fair trial necessitates fair investigation, which means transparency in evidence collection irrespective whether inculpatory or exculpatory in nature. The right to fair trial includes a wide duty on the public prosecutor to share exculpatory evidence with the accused to prove his innocence.²⁵ Sections 207 and 208 of procedure code and the Bar Council of India Rules also necessitate that prosecution must disclose to the defense any material which might be exculpatory.²⁶ In *Shiv Kumar v. Hukam Chand* the court held that "...if an accused is entitled to any legitimate benefit during trial the Public Prosecutor should not scuttle/conceal it. On the contrary, it is the duty of the Public Prosecutor to winch it to the force and make it available to the accused".²⁷ The US Supreme Court, in *District Attorney's Office for the Third Judicial District v. Osborne*, dealt with a post-conviction claim to access evidence, at the behest of the convict, who wished to prove his innocence, through new DNA techniques. The court observed, "DNA testing has an unparalleled ability both to exonerate the wrongly convicted and to identify the guilty. It has the potential to significantly improve both the criminal justice system and police investigative practices". The court further observed, in the context of the facts, that:²⁸

Modern DNA testing can provide powerful new evidence unlike anything known before. Since its first use in criminal investigations

23 2022 SCC On-Line SC 677.

24 *Id.* at para 24. Also see: *Umesh Tukaram Padwal v. State of Maharashtra* (2019) 8 SCC 567.

25 *Sidhartha Vashisht @ Manu Sharma v. State (NCT of Delhi)* (2010) 6 SCC 1.

26 *Veerendra v. State of Madhya Pradesh* (2022) 8 SCC 668 at para 46.

27 (1999) 7 SCC 467.

28 557 U.S. 52 (2009). Also see: *Mukesh Kumar v. State of H.P.* Cr. Appeal No. 321 of 2021, decided by Himachal Pradesh High Court on Dec. 27, 2022.

in the mid-1980s, there have been several major advances in DNA technology, culminating in STR technology. It is now often possible to determine whether a biological tissue matches a suspect with near certainty. While of course many criminal trials proceed without any forensic and scientific testing at all, there is no technology comparable to DNA testing for matching tissues when such evidence is at issue. DNA testing has exonerated wrongly convicted people, and has confirmed the convictions of many others.

Procedural compliance in forensics

Strict adherence to due procedure in forensics is *sine qua non* for admissibility of expert opinion in the court room. In *Najeeruddin v. State of Uttar Pradesh*,²⁹ the forensic report was rejected by the high court because neither any prosecution witness who lifted articles or collected samples from crime scene, or expert who conduct forensic analysis was examined during trial. The seized item or its portion was also not produced in the court. The forensic reports were not shared with the accused to prepare his defense under article 313 CrPC. “Failure to accord fair hearing either to the accused or the prosecution violates even minimum standards of due process of law”.³⁰ In *In Reference v. Ramnath Kewat*,³¹ the coding for DNA sampling and color of the seized cloths were challenged, however, the court accepted DNA report since other samples were intact and procedural fairness to conduct DNA was duly observed. Due precautions during identification, lifting, packaging, transportation, storage, coding, maintenance of chain of custody of samples are vital procedural requirements for ascertaining admissibility of forensic reports.

Filing charge sheet without forensic report

Charge-sheet or closure report are culmination of investigation based on analysis of evidence collected under section 173 of the procedure code. Forensic evidence may be a part of battery of evidence gathered during investigation. Hence, an accused is not entitled for default bail and charge-sheet cannot be held incomplete merely due to pendency of expert opinion.³²

Procedural compliance during collection of digital evidence

The certificate under section 65-B of the Indian Evidence Act, 1872 is a legal necessity for admissibility of computer output to use as electronic evidence. The Supreme Court in case of *Arjun Pandit Rao Khotkar v. Kailash Kushanrao*

29 2022 SCC On-Line All 36; (2022) 2 All LJ 65; 2022 Cri LJ 870; (2022) 2 AICLR 400 at para 23.

30 *Zahira Habibulla H. Sheikh v. State of Gujarat* (2004) 4 SCC 158.

31 2022 SCC On-Line MP 1826. Also see: *Santosh Markam v. State of Madhya Pradesh* 2022 SCC On-Line MP 2186 at para 54.

32 *Mehabub Rehman @ Empha v. State through Sp. Cell Delhi* CrI. Rev. P. 340/2020 Delhi High Court, decided on 22 March 2021 at para 19. Also see: *Sandeep v. State (NCT of Delhi)*, 2022 SCC On-Line Del 2317 at para 9; *Khilan Singh v. State of Madhya Pradesh* 2022 SCC On-Line MP 2030 at para 14.

Gorantyal,³³ held that section 65-B(4) of the Act does not mention the stage of furnishing the certificate.

A legal issue was raised whether issuing notice under section 91 CrPC by police for submitting mobile phone amount to violation of the right against self-incrimination enshrined under Article 20(3).³⁴ Having regard to the provisions of Section 45-A of the Evidence Act and Section 79A of the Information Technology Act, 2000, the prosecution has every right to seek that the accused hand over the mobile phones in question for the purpose of forensic examination by an agency identified by the Central Government as ‘*Examiner of Electronic Evidence*’ under Section 79-A of the Information Technology Act, 2000.³⁵ The order given by the trial court to the defendant to disclose the passwords of mobile phone and email is justified and does not violate Article 20(3) or provisions under section 161(2) CrPC, the court further held.³⁶ Contrarily in another case of similar nature, the high court held that police cannot compel a person to disclose password of electronic device like mobile phone or computer since the Criminal Procedure (Identification) Act, 2022 did not include the words password and/or user ID in the definition of “Measurement” or anywhere else.³⁷ Thus, legal interpretation on disclosure of password is blurred and the Supreme Court must resolve this legal conundrum at the earliest.

Cyborg law

Cyborg³⁸ is typically a man-machine hybrid representing merger between human and machines, and 21st century has evidently witnessed cyborgization of human civilization. The human body and brain are increasingly becoming sites of control and commodification at the cost of compromised privacy. According to Snowden “privacy is what allows us to determine who we are and who we want to be.”³⁹ The divide between human and machine gradually turning unstable and fuzzier. Humans have rights, under which they retain some measure of dominion over their bodies. Machines, meanwhile, remain slaves with uncertain masters. Our laws may, directly and indirectly, protect people’s right to use certain machines like to possess arms. However, the legal system does not recognize the rights of

33 (2020) 7 SCC 1.

34 *Kurian v. Joseph* 2021 (2) KHC 124. Also see: *State of Gujarat v. Shyamlal Mohanlal Choksi*; AIR 1965 SC 1251; *Gopalakrishnan Nayanar v. Sasidharan Nambiar*, (1996) 1 KLT 83.

35 *P. Gopalakrishnan v. State of Kerala* 2022 SCC OnLine Ker 3490.

36 *Virendra Khanna v. State of Karnataka* 2021 SCC OnLine Kar 5032; (2021) 3 AIR Kant R 455; *P. Gopalakrishnan v. State of Kerala* 2022 SCC OnLine Ker 3490 at para 10.

37 *Central Bureau of Investigation v. Mahesh Kumar Sharma* CBI-31/2021, decided on 29 October 2022 by the Rouse Avenue District Court, New Delhi. Also see: *Katelin Eunjoo Seo v. State of Indiana* 148 N.E.3d 952 (2020).

38 In 1960, Manfred Clynes coined the term “cyborg”. Chris Hables Gray, *Cyborg Citizen: Politics in the Posthuman Age* 183 (Routledge, 2002).

39 Costas Pitas, Snowden Warns of Loss of Privacy in Christmas Message, Reuters (Dec. 25, 2013). Available at: <http://www.reuters.com/article/2013/12/25/us-usa-snowden-privacyidUSBRE9BO09020131225>. (Last visited on July 24, 2023)

machines themselves, nor do the laws recognize cyborgs hybrids that add machine functionalities and capabilities to human bodies and consciousness. In 2014, the US Supreme Court observed, “Phones are so pervasive and insistent part of daily life that the proverbial visitor from Mars might conclude they were an important feature of human anatomy”.⁴⁰ The court unanimously held that police officers may not, without a warrant, search the data on a cell phone seized during an arrest.

III CIVIL DISPUTES RESOLUTION

Forensic evidence plays significant role to find truth irrespective of the nature of petition. Variety of civil disputes such as paternity determination, property ownership, succession, maintenance etc. resolved by using expert opinion during the extant survey have been discussed below.

Paternity determination

Section 112 of the Indian Evidence is standalone legal provision under the Indian Evidence Act, 1872 to determine paternity of a child. Interestingly, law continues to keep conspicuous silence to address legal dispute for ascertaining maternity of a child despite surrogacy and other IVF procedures are in routine practice. On presumption of legitimacy under section 112 the court observed, “the child born of a married woman is deemed to be legitimate, it throws on the person who is interested in making out the illegitimacy, the whole burden of proving it. The law presumes both that a marriage ceremony is valid, and that every person is legitimate. Marriage or filiation (parentage) may be presumed, the law in general presuming against vice and immorality. The presumption of law under Section 112 of the Evidence Act is that a child born during lawful wedlock is legitimate, and that access occurred between the parents. This presumption though rebuttable but can only be displaced by a strong preponderance of evidence, and not by a mere balance of probabilities”.⁴¹

In *Ashok Kumar v. Raj Gupta*,⁴² the apex court dealt with several legal questions such as the right to privacy of person whose DNA test is conducted, a person whether can be compelled to undergo DNA test against his will, test of eminent need and test of proportionality. The apex court time and again has

40 *Riley v. California* 573 U.S. 373: 189 L.Ed. 2d. 430.

41 *Paka Padmavathi v. State of Andhra Pradesh* 2022 SCC OnLine AP 1775 : (2022) 5 ALT 104 : (2022) 5 ALD 239 at para 44. Also see: *Ashok Kumar v. Raj Gupta* (2022) 1 SCC 20; In *Banarsi Dass v. Teeku Dutta* [(2005) 4 SCC 449], the apex court at para 9 held that “It was noted that Section 112 of the Indian Evidence Act, 1872 (in short “the Evidence Act”) requires the party disputing the parentage to prove non-access in order to dispel the presumption of the fact under Section 112 of the Evidence Act. There is a presumption and a very strong one, though a rebuttable one. Conclusive proof means proof as laid down under Section 4 of the Evidence Act”.

42 (2022) 1 SCC 20. Also see: *Auup Kumar Maity v. State of West Bengal* 2022 SCC OnLine Cal 2871; *Binod Kumar Singh v. Sushma Devi* 2022 SCC OnLine Jhar 1553 at para 57; *Radheshyam v. Kamla Devi*, (2022) 2 MP LJ 38; *Urmila Singh v. Saudan Singh* 2022 SCC OnLine MP 1823 : (2022) 3 MP LJ 355; and *Bhukva Padmavathi v. Bhukya Balaji* 2022 SCC OnLine TS 3086.

reiterated the ratio for the test of ‘eminent need’ for ordering to conduct DNA test for parentage determination as propounded in *Bhabani Prasad Jena v. Orissa State Commission for Women*.⁴³ In *Ashok Kumar*, the apex court observed that in litigations “where the interest will have to be balanced and the test of ‘eminent need’ is not satisfied our considered opinion is that the protection of the right to privacy of the plaintiff should get precedence”.⁴⁴ In *Dipanwita Roy* paternity dispute case,⁴⁵ J.S. Kehar J. recorded a caveat to the effect that the wife may refuse to comply the High Court direction for the DNA test, but in that case, adverse presumption may be drawn against her under section 114 of the Indian Evidence Act, 1872.

In *Ashok Kumar*, responding to legal issue whether refusal to undergo DNA testing amounts to “other evidence” or in other words can an adverse inference be drawn in such situation, the apex court held that “The presumption of legitimacy of a child can only be displaced by strong preponderance of evidence, and not merely by balance of probabilities”.⁴⁶ Test of preponderance of probability is too light standard that may potentially expose many children to the peril of being illegitimized. The court further held that in paternity determination cases, “the court decision should be rendered only after balancing the interests of the parties i.e. the quest for truth, and the social and cultural implications involved therein. The possibility of stigmatizing a person as a bastard, the ignominy that attaches to an adult who, in the mature years of his life is shown to be not the biological son of his parents may not only be a heavy cross to bear but would also intrude upon his right to privacy”.⁴⁷ Indian law of presumption of legitimacy leans towards legitimacy and frowns upon bastardy, thus cannot be lightly repelled. The apex court kept on observing, “The court should therefore examine the proportionality of the legitimate aims being pursued i.e. whether the same are not arbitrary or discriminatory, whether they may have an adverse impact on the person and they justify the encroachment upon the privacy and personal autonomy of the person, being subjected to the DNA test”.⁴⁸

In *Priyanka Janardan Patil v. Janardan Raghunath Patil*,⁴⁹ the apex court approved the order of court below to conduct DNA for paternity determination despite the fact that husband had access to her wife during the time she conceived. Dispute between husband and wife arose when medical check-up suggested the

43 (2010) 8 SCC 633 : (2010) 3 (Civ) 501 : (2010) 3 SCC (Cri) 1053.

44 *Supranote* 42 at para 17. Also see: *Kotha Mahender v. Kotha Nirmala Swaroopa* 2022 SCC OnLine TS 1932 at para 7.

45 *Dipanwita Roy v. Ronobroto Roy* (2015) 1 SCC 365: (2015) 1 SCC (Civ) 495: (2015) 1 SCC (Cri) 683. Also see: *Sharda v. Dharmpal* (2003) 4 SCC 493, para 79.

46 *Supra* note 42 at para 13. Also see *Kanti Devi v. Poshi Ram*, (2001) 5 SCC 311: (2001) SCC (Cri) 892, p 316, para 11; *Sudeep Suhas Kulkarni v. Abbas Bhadur Dhnani* 2022 SCC OnLine Bom 6717 at para 6.

47 *Id.* at para 14.

48 *Id.* at para 15.

49 2022 SCC OnLine SC 1047.

pregnancy of 21 weeks, but their marriage was consummated 20 weeks ago. Further, child was born after 261 days, nearly 17 days prior to normal gestation period of nine months. The court observed that there was no reason to believe that wife was pregnant before marriage. However, "...to resolve the dispute once and for all, this Court refrains from interfering with the direction for paternity/DNA Test...It is made absolutely clear that if on testing, it is found that the allegations are based on suspicion and the respondent is, in fact, the father of the child, the respondent shall pay compensation of Rs. 30,00,000/- (Rupees thirty lakhs only) to the petitioner, in addition to usual maintenance and other costs and charges as the respondent may be directed to pay for the petitioner and for the child".⁵⁰

In *Narayan Dutt Tiwari v. Rohit Shekhar*,⁵¹ the Supreme Court upheld the directions passed by High Court of Delhi, whereby parties were directed to undergo DNA Profiling test. The court had also directed that in case there is defiance of the order, the court shall be entitled to take police assistance and use of reasonable force for compliance of the order to conduct DNA Profiling Test. Certain points relevant to refer here, observed by the court, are reiterated below:

- (a) A distinction has to be drawn between "legitimacy" and "paternity" of child.
- (b) Section 112 of the Indian Evidence Act, 1872 is intended to safeguard the interest of child by securing his/her legitimacy and not to paternity.
- (c) A child has a right to know the truth of his/her origin.
- (d) The right of a child to know his biological roots can be enforced through reliable scientific tests and if interest of the child is best sub-served by establishing paternity of someone who is not the husband of his mother, the Court should not shut that consideration altogether; Indian law casts an obligation upon a biological father to maintain his child and does not disregard rights of an illegitimate child to maintenance.
- (e) Pronouncements of Supreme Court in *Goutam Kundu v. State of W.B.*, (1993) 3 SCC 418; *Sharda v. Dharmpal*, (2003) 4 SCC 493; and *Bhawani Prasad Jena v. Convenor Secretary, Orissa State Commission for Women*, (2010) 8 SCC 633, are not applicable in such situation.
- (f) In case for denial of DNA Testing, the applicant suffers irreparable injury, then balance of convenience is also in favour of the applicant.
- (g) Justice is best served by truth, and Justice is not served by impeding the establishment of truth. No injustice is done by conclusively establishing paternity.

50 *Id.* at para 4. Also see: *Dipanwita Roy v. Ronobroto Roy* (2015) 1 SCC 365;

51 (2012) 12 SCC 554 at para 15; (2013) 2 SCC (Civ) 499; (2012) 4 SCC (Cri) 148; 2012 SCC OnLine SC 460.

(h) A putative father may seek to avoid his paternity which science could prove; alternatively, to cling on to a status that science could disprove. In both cases selfish motives or emotional anxieties and needs may drive the refusal to cooperate in the scientific tests which the court has directed.

(i) When the conclusive scientific evidence is to the advantage of the child, then his legal status should not be determined on the basis of evidence proving perhaps but should be displaced by firm evidence on scientific analysis.

(j) the injunction directing DNA testing falls in the category of an order in aid of disposal of the suit and deciding the rights of the parties to the suit.

(k) Once the Court finds that there is eminent need for such a test, the police force or any other coercive action against the person defying the order is justified, as legal fiction under Section 114 of the Evidence Act with regard to it is not a reality but a fact which the said provision requires the Court to accept as reality and the Court is not bound to or obliged to draw such adverse inference.

(l) It is the rule of law in evidence that the best available evidence should be brought before the Court to prove a fact or the points in issue and the Court ought to take an active role in the proceedings in finding the truth.

Thus, the courts increasingly are relying widely on DNA test as compared to section 112, if the child or mother are requesting the court for DNA based paternity determination.⁵² The plaintiffs also contest for parentage determination to brace claim in inheritance of property. In such cases, DNA is used as a last resort and usually courts avoid to order for DNA test since it does not fulfill eminent need requirement and also violate privacy.⁵³ DNA led parentage determination further helps to decide disputes related to child custody particularly for disputed marital relationship.⁵⁴

Maintenance Claims

The Supreme Court held that it is the duty of an able-bodied man to earn by legitimate means and to maintain his wife and minor children.⁵⁵ Protection for wife, children and parents under section 125 of the procedure code is aimed to prevent destitution of family members. Wife has to set up a *prima facie* domestic relationship in societal perception that both are living like husband and wife to avail protection

52 *Kuldeep v. Kartik* 2022 SCC OnLine HP 5716 at para 11.

53 *Asgar Ali v. Mahmuda Begum (dead) her legal heirs* 2022 SCC OnLine Cal 181: (2022) 1 ICC 763; and *Ashok Kumar v. Raj Gupta* 2021 SCC OnLine SC 848.

54 *Sudeep Suhas Kulkarni v. Abbas Bahadur Dhanani* 2022 SCC OnLine Bom 6717 at para 16.

55 *Anju Garg v. Deepak Kumar Garg* 2022 SCC OnLine SC 1314.

under section 125, and proof beyond reasonable doubt is not required from the wife.⁵⁶ Strict proof of legitimacy through DNA test is not required for a child to seek maintenance from father, if successfully setup *prima facie* relationship between mother and father.⁵⁷

In another maintenance claim suit, the applicant father assailed the lower court judgment in the high court for reversing order for conducting DNA test for ascertaining paternity of his son.⁵⁸ The father challenged the legitimacy of the son, hence son demanded DNA testing for paternity determination. The mother of the respondent son made categorical allegations against petitioner stating in the court that she fell in love with the petitioner and he kept her as mistress; as a consequence, respondent child was born. The High Court of Himachal Pradesh dismissed the petition and allowed to conduct DNA test, since fidelity of the petitioner towards his wife and sincerity towards his children are at stake, and DNA test would expose the truth.

There is increasing trend in the Indian courts to order DNA test for paternity determination of child for examining infidelity of the wife despite the child was begotten within the period of lawful marriage between parents of the child instead of depending upon provisions under section 112 of the Indian Evidence Act.⁵⁹ Indeed, DNA accurately determines genetic linkages between offspring and parents irrespective of marital status of parents. Thus, DNA profiling may trace paternity of child in question, if marriage between the alleged parents is challenged during civil disputes.⁶⁰

Organ donation

The Transplantation of Human Organs and Tissues Act, 1994 under section 9 necessitates near (familial) relationship between an organ donor and the recipient. DNA helps to establish desired blood relationship.⁶¹

IV CRIMINAL ADJUDICATION

Forensic inputs as secondary evidence predominately helps in criminal justice administration especially for bracing corroboration. DNA has universally emerged as panacea for invigorating rape jurisprudence to determine guilt and founding innocence. In the extant survey, evolving judicial trends for interpretation forensic inputs and associated laws have briefly been enumerated below.

56 *Mohd. Shakeel v. Sabia Begum* (2022) 1 High Court Cases (Del) 335 at para 27. Also see: *Santosh v. Naresh Pal* (1998) 8 SCC 447.

57 *Id.* at para 40.

58 *Supra* note at 52.

59 *Sreeja T. v. Rajaprabha* 2022 SCC OnLine Ker 6447. Also see: G.K. Goswami and Siddhartha Goswami, "Three Decades of DNA Evidence: Judicial Perspective and Future Challenges in India" in HIRAK RANJAN DAS *et. al.* (eds.) *DNA Fingerprinting: Advancements and Future Endeavours* 181-205 (Springer Nature: Singapore, 2018).

60 *A. Pichaiach v. M. Peachaimmal* 2022 SCC OnLine Mad 3765.

61 *Aditi Goswami v. Govt. of NCT of Delhi* 2022 SCC OnLine Del 4332 at para 11.

Human Identification

There are several techniques for human identification such as photography, videography, voice spectroscopy, specific identification mark, skull superimposition etc. but DNA remains more authentic specially when facial identification becomes obscure.⁶² During the year under survey, among plethora of cases, DNA helped to identify otherwise unidentifiable dead bodies.⁶³ However, in scores of incidents,⁶⁴ police fail to conduct DNA of the dead bodies defying the explicit order of the apex court.⁶⁵ Allahabad High Court coincides with the acquittal in a murder case since DNA test was not done to identify the skeletal remains recovered of the deceased.⁶⁶ In *Santosh Balu Mali* case, the skeletal remains were sent for DNA forensic analysis, but prosecution never shared the forensic expert opinion with the court or the accused, consequently conviction was overturned by Bombay High Court in absence of credible identification of the dead body.⁶⁷

In a case of killing his own three-month-old son having suspicion of deceased child being illegitimate, the conviction of accused father was upheld by the high court despite DNA was not conducted to identify the decomposed body. The court held that merely non-conduction of DNA test is not fatal for prosecution case, if other evidence cogently established guilt of the accused beyond reasonable doubt.⁶⁸ In modern era of science and technology, prosecution and court must emphasize on scientific techniques to ensure truth in adjudication.

DNA in Criminal Adjudication

In rape cases, DNA as evidence is recognized under section 53-A and 164-A of the procedure code for collecting blood (biological) samples for forensic analysis. In other offences, section 53 of Cr PC read with Explanation (a) empowers an investigating officer to collect blood samples from the accused, and the investigating officer can exercise this power under section 173(8) of the procedure code even after filing the final report.⁶⁹ In *Chotkau v. State of Uttar Pradesh*,⁷⁰ the

62 *S. Kaleeswaran v. State of Tamil Nadu* 2022 SCC OnLine SC 1511 at para 14. Also see: 2022 SCC OnLine SC 773.

63 *Amol Ambadas Bankar v. State of Maharashtra* 2022 SCC OnLine Bom 4989 at para 7; *Parvez v. State (NCT of Delhi)* 2022 SCC OnLine 2961 at para 6; *Ranjeetsinh Valjisingh Shekhawat v. State of Gujarat* 2022 SCC OnLine Guj 765 at para 7; *Thulasidass Adikesavan v. Inspector of Police* 2022 SCC OnLine Mad 5911 at para 18.

64 *Durlabh Pradhan v. State of Jharkhand* 2022 SCC OnLine Jha 688 at para 5 : (2022) 3 JBCJ 601 (HC); *Jeevan v. State of Madhya Pradesh* 2022 SCC OnLine MP 4874 at para 60.

65 *Lokniti Foundation v. UoI* W.P. (Civ) No. 491/2012 decided on 01 May 2022 by the Supreme Court of India.

66 *Noor Fatima v. State of U.P.* 2022 SCC OnLine All 120 at para 13: (2022) 119 ACC 230.

67 *Santosh Balu Mali v. State of Maharashtra* 2022 SCC OnLine Bom 2853 at para 13.

68 *Govind Bariha v. State of Chhattisgarh* 2022 SCC OnLine Chh 698 at para 26 : (2022) 237 AIC (Sum 1) 1. Also see: *Pattu Rajan v. State of Tamil Nadu* (2019) 4 SCC 771 at para 57.

69 *Thankappan V.E. v. State of Kerala* 2022 SCC OnLine Ker 4714 at para 16.

70 2022 SCC OnLine SC 1313.

Supreme Court observed that for conducting medical exam and DNA of the accused and the victim, sections 53A and 164A of the procedure code are mirror images respectively, with three distinguishing features:⁷¹

- (i) Section 164A requires the prior consent of the women who is the victim of rape. Alternatively, the consent of a person competent to give such consent on her behalf should have been obtained before subjecting the victim to medical examination. Section 53A does not speak about any such consent;
- (ii) Section 164A requires the report of the medical practitioner to contain among other things, the general mental condition of the women. This is absent in Section 53A;
- (iii) Under Section 164-A(1), the medical examination by a registered medical practitioner is mandatory when, “*it is proposed to get the person of the women examined by a medical expert*” during the course of investigation. This is borne out by the use of the words, “*such examination shall be conducted*”. In contrast, Section 53A(1) merely makes it lawful for a registered medical practitioner to make an examination of the arrested person if “*there are reasonable grounds for believing that an examination of his person will afford evidence as to the commission of such offence*”.

The apex court kept on observing:⁷²

In cases where the victim of rape is alive and is in a position to testify in court, it may be possible for the prosecution to take a chance by not medically examining the accused. But in cases where the victim is dead and the offence is sought to be established only by circumstantial evidence, medical evidence assumes great importance. The failure of the prosecution to produce such evidence, despite there being no obstacle from the accused or anyone, will certainly create a gaping hole in the case of the prosecution and give rise to a serious doubt on the case of the prosecution. We do not wish to go into the question whether Section 53A is mandatory or not. Section 53A enables the prosecution to obtain a significant piece of evidence to prove the charge. The failure of the prosecution in this case to subject the appellant to medical examination is certainly fatal to the prosecution case especially when the ocular evidence is found to be not trustworthy.

In *Sanjeev Nanda v. State of NCT, Delhi*,⁷³ the High Court of Delhi held that examination of the accused contemplated under Section 53 of Cr PC includes taking of blood from the accused and even an accused on bail falls within the

71 *Id.* at para 80.

72 *Id.* at para 81.

73 2007 SCC OnLine Del 859 : 2007 Cri LJ 3786.

ambit of Section 53 of Cr PC. If circumstances adverse to collect DNA samples, reason must be cited by the prosecution why DNA test was not conducted.⁷⁴ However, legal conundrum continued whether collection of biological samples and conducting DNA is mandatory or optional, since the constitutional courts have given diverse views on this vital issue. The apex court in *Krishan Kumar Malik v. State of Haryana*⁷⁵ held that the failure to obtain the forensic report may be fatal to prosecution case. The apex court further said that section 53A of the procedure code necessitates the prosecution for conducting DNA in cases like rape.⁷⁶ The court held that section 53A is not mandatory, but an adverse inference against prosecution may be drawn:⁷⁷

For the prosecution to decline to produce DNA evidence would be a little unfortunate particularly when the facility of DNA profiling is available in the country. The prosecution would be well advised to take advantage of this, particularly in view of the provisions of Section 53-A and Section 164-A Cr PC. We are not going to the extent of suggesting that if there is no DNA profiling, the prosecution case cannot be proved but we are certainly of the view that where DNA profiling has not been done or it is held back from the trial court, an adverse consequence would follow for the prosecution.

In *Veerendra*,⁷⁸ the apex court observed that “Certainly, non-conduction of DNA profiling in terms of the provisions under Section 53-A Cr PC, is a flaw in the investigation”. However, it is held that “... a positive result of DNA test would constitute clinching evidence against the accused. But, a negative result of DNA test or DNA profiling having not been done would not and could not, for that sole reason, result in failure of prosecution case”.⁷⁹ Failure to conduct DNA in criminal cases may not be fatal for prosecution in presence of other cogent evidence.⁸⁰ Examination of the forensic expert involved in forensic reporting brace credence to the credibility of expert opinion.⁸¹

74 *State of Maharashtra v. Mohammad Aabed Mohammad Ajmir Shaikh* 2022 SCC OnLine Bom 269 at para 43; (2022) 1 Bom CR (Cri) 546 : (2022) 3 AIR Bom R (Cri) 311.

75 (2011) 7 SCC 130.

76 *Id.* at para 44. Also see: *Rajendra Pralhadrao Wasnik v. State of Maharashtra* (2019) 12 SCC 460 at paras 49 and 50; and *Upendra v. State of U.P.* 2022 SCC OnLine 165 at para 26 : (2022) 119 ACC 746.

77 *Id.* at para 54.

78 *Supra* note 26 at para 45.

79 *Id.* at para 56. Also see: *Rajendra Pralhadrao Wasnik v. State of Maharashtra* (2019) 12 SCC 460; (2019) 4 SCC (Cri) 420; *Sunil v. State of M.P.* (2017) 4 SCC 393; (2017) 2 SCC (Cri) 372; and *Krishan Kumar Malik v. State of Maharashtra* (2011) 7 SCC 130 : (2011) 3 SCC (Cri) 61.

80 *Bappa Paul v. State of West Bengal* 2022 SCC OnLine Cal 1525 at para 16.

81 *Anmol v. State of Maharashtra* 2022 SCC OnLine Bom 107 at para 21 : (2022) 3 Bom CR (Cri) 263.

Matching DNA pointedly aided the courts to determine guilt of the accused mainly in bodily offences like rape and murder.⁸² DNA, if connecting crime with criminals, also became important reason for denial of bail of the accused.⁸³ Despite known credibility of DNA for human identification, the investigators in India suffer from lackadaisical approach of police resulting in miscarriage of justice. In several cases including rape and murder, no effort was made to conduct DNA profiling that became fatal to prosecution case, and court also sustained conspicuous silence.⁸⁴ The high court dismissed state appeal in *State (Govt. of NCT) v. Abuzar*,⁸⁵ since no DNA could be extracted from the conception material sent by the prosecution for forensic laboratory. The forensic expert opined before the court that the sample was drawn from the placental material but DNA profile of the male contributor could not be isolated, hence it cannot be proved that the respondent was responsible for conception.⁸⁶ Surprisingly, in another case, the Bombay high court raised the presumptive doubts on the chain of custody of DNA sample, and giving benefit of doubt of consensual sex for acquitting the accused despite his matching DNA with the child born to the victim of rape.⁸⁷

The High Court of Chhattisgarh held that during evidence collection, “Even there is no bar for the Investigation Agency to match the DNA profile of the

82 *Bhagwani v. State of Madhya Pradesh* 2022 SCC OnLine SC 52; *Harendera v. State of U.P.* 2022 SCC OnLine All 458 : (2022) 120 ACC 575 : (2022) 6 All LJ 24 : 2022 Cri LJ 4177 at para 37 and 58; *State of Maharashtra v. Ashok Baban Mukane* 2022 SCC OnLine Bom 358 : (2022) 2 Bom CR (Cri) 253 : (2022) 3 AIR Bom R (Cri) 198 at para 79 the court observed, “the DNA report had hit the nail on the head of the [accused] appellant in view of its clinching nature”; *Kushal v. State of Maharashtra* 2022 SCC OnLine Bom 1781 : (2022) 3 AIR Bom R (Cri) 596; *In refrence of State of Chhattisgarh v. Shekhar Korram* 2022 SCC OnLine Chh 1051; *Azad Khan v. State of NCT of Delhi* 2022 SCC OnLine Del 3101; *Bagender Manjhi v. State (Govt. of NCT)* 2022 SCC OnLine Del 3424; *Dipender v. State (Govt. of NCT)* 2022 SCC OnLine Del 3671; *Mani Shankar v. State (Govt. of NCT)* 2022 SCC OnLine Del 3495; *Sikander Soni v. State (NCT of Delhi)* 2022 SCC OnLine Del 2681 at para 11; *Vinod Kumar v. State (NCT of Delhi)* 2022 SCC OnLine Del 3611 at para 21; *In Reference, Madhya Pradesh v. Ankit Vijyvargiya* 2022 SCC OnLine MP 1322 at para 21; and *Komal Tiwari v. State of Madhya Pradesh* 2022 SCC OnLine MP 698;.

83 *Bablu Gir v. State of MP* 2022 SCC OnLine MP 1681; *Harnath Kelesariya* 2022 SCC OnLine MP 2798; and *Sandeep Asalkar v. State of Madhya Pradesh* 2022 SCC OnLine MP 141 at para 8.

84 *Mohd. Kutubuddin Kamruddin Ansari v. State of Maharashtra* 2022 SCC OnLine Bom 814; *State of Maharashtra v. Vishnu Tulshiram Karwate* 2021 Latest Case Law 15154 Bom. In *Habu v. State of MP* [2022 SCC OnLine MP 2017] at para 28, the high court poignantly observed, “But for reasons best known to the prosecutions, it has not proceeded with this crucial DNA Testing of the hairs. It is also found that the slides of the deceased’s vagina also had human spermatozoa, but again, for the reasons best known to the prosecution agencies, they have not tried to match the DNA of the aforesaid spermatozoa with that of the appellant. In such circumstances, we are at pains to observe that if this is the procedure adopted by the investigating agencies, then there is simply no point in prosecuting any person at all and the whole trial appears to be a farce”.

85 2022 SCC OnLine Del 3763.

86 *Id.* at para 6.

87 *Supra* note 81 at para 28.

deceased-victim with the DNA profile of any other accused, who has been arrested in a different crime number”.⁸⁸ In *Mohan Singh v. Prem Singh*,⁸⁹ the apex court observed that “The law on the subject is almost settled that statement under Section 313 Cr PC of the accused can either be relied in whole or in part. It may also be possible to rely on the inculpatory part of his statement if the exculpatory part is found to be false on the basis of the evidence led by the prosecution”. However, if prosecutrix is major, then consent becomes determinate factor for ascertaining allegation of sexual assault.⁹⁰

Sexual assault by acquaintance accused

Nearly 80% rape incidents are committed by the accused acquainted with the prosecutrix. It is recorded regularly in yesteryears Annual Survey of Indian Law (ASIL) that step father committed penetrative sexual assaults to their minor daughters.⁹¹ Due to fear, victims afraid to disclose the crime against them and repeatedly assaults resulting late disclosure of advanced-stage pregnancies, and victims suffer for undergoing abortion of fetus, or to give child birth at tender age. In such cases sole testimony of the victim and matching DNA profile with foetus/child are clinching evidence for conviction.⁹²

Rape induced Pregnancy

It is poignantly noted that minor victims of rape, due to various unavoidable reasons of delayed detection of pregnancy, are compelled to give birth to rape-related child.⁹³ DNA plays dominant role to ascertain putative father of foetus or child born to the prosecutrix.⁹⁴ However, negative DNA report of foetus or child excluding the accused as putative father, does not exonerate the accused from his

88 *State of Chhattisgarh v. Rakesh Chandrakar* 2022 SCC OnLine Chh 2432 at para 8.

89 (2002) 10 SCC 236 : 2003 SCC (Cri) 1514 at pp 244-245, para 27 & 30. Also see: *Nishi Kant Jha v. State of Bihar* (1969) 1 SCC 347 para 23 : AIR (1969) SC 422.

90 *Karan v. State of Haryana* 2022 SCC OnLine P and H 2540. It is famous OP Jindal University rape case.

91 *State of Himachal Pradesh v. Rajesh Kumar* 2022 SCC OnLine HP 4819.

92 *Ram Sewak v. State of West Bengal* 2022 SCC OnLine Cal 551 at para 29.

93 *XYZ v. State of Chhattisgarh* 2022 SCC OnLine Chh 1191; and *Kumar Alsi v. State of Assam* 2022 SCC OnLine Gau 516 at para 8 : (2022) 2 GLT 891 : (2022) 3 GLT 298 : 2022 Cri LJ2720 : (2022) 5 Gau LR 100.

94 *Arun Popatrao Pingalev. State of Maharashtra* 2022 SCC OnLine Bom 1447 at para 11: (2022) 3 Bom CR (Cri) 582; *Ramesh Tukaram Vavekarv. State of Maharashtra* 2022 SCC OnLine Bom 373 para 63: (2022) 2 Bom CR (Cri) 237; and *Nagadoss v. State, by the Inspector of Police* 2022 SCC OnLine Mad 3070.

repetitive forcible sexual conduct.⁹⁵ On this critical legal conundrum, Bombay High Court has observed, “DNA would constitute clinching evidence against the accused, if however, the result is in negative, the other material available on record will still have to be considered independently”.⁹⁶ The constitutional courts permitted to terminate rape-related pregnancy based on medical board advice in accordance with the provisions entailed under the Medical Termination of Pregnancy (Amendment) Act, 2021 and to preserve foetus tissue for DNA test required during investigation.⁹⁷ There are scores of instances of stark miscarriage of justice due to gross negligence of police for failing to conduct DNA test resulting into acquittals despite the fact that the rape victim got impregnated and gave birth to a child.⁹⁸ Similarly in *Md. Israil v. State of West Bengal*, the minor prosecutrix gave birth to a still born child but investigator does not bother to collect sample for DNA match.⁹⁹ The high court observed, “The DNA test was not conducted, however, such inadequacy in conducting the DNA test does not make the prosecution case altogether false in the light of the clinching evidence of the victim girl.”¹⁰⁰ The victim girl had no control over the investigating agency and any negligence of the investigating officer cannot affect the credibility of evidence of the victim. The prosecutrix should not face secondary victimization of shoddy investigation.

A petition under section 482 Cr PC was filed before the High Court of Gauhati with prayer for quashing the first information report (FIR) of alleged rape committed nearly 34 years ago when she was 15 years old, consequently she gave birth to a

95 *Dashrath S/o Hiranjan Johare v. State of Maharashtra* (Criminal Application No. 392/2020) decided on July 14, 2020 by the High Court of Bombay. In *Afan Ansari v. State of Jharkhand* [2022 SCC OnLine Jhar 1649] the accused in a POCSO requested the court for conducting DNA test of the child born to the prosecutrix. His petition was dismissed by citing the *Goutam Kundu* case (*Supra* note 21), the *Justice Puttaswamy* case (*Supra* note 18) on right to privacy, and many other cases relevant for civil disputes. The high court referred *Ashok Kumar* (*Supra* note 42) where, at para 15, the apex court observed, “Referring The Court should therefore examine the proportionality of the legitimate aims being pursued i.e. whether the same are not arbitrary or discriminatory, whether they may have an adverse impact on the person and that they justify the encroachment upon the privacy and personal autonomy of the person, being subjected to the DNA test”. However, it is pertinent to mention that paternity determination has distinct jurisprudence for criminal and civil matters as discussed in Section IV (Voice Spectroscopy) of this Survey

96 *Abbas Asmat Ali v. State of Maharashtra* 2022 SCC OnLine Bom 338 at para 12. Also see: *Sunil v. State of Madhya Pradesh* (2017) 4 SCC 393 at para 4.

97 *XYZ v. State of Maharashtra* 2022 SCC OnLine Bom 2181 at para 12; *X v. State of Maharashtra* 2022 SCC OnLine Bom 253 at para 7 : (2022) 2 Bom R (Cri) 572 : (2022) 3 Mah LJ 67 : (2022) 237 AIC (Sum 26) 12; *R v. State (NCT of Delhi)* 2022 SCC OnLine Del 2628 at para 6; *A Minor Girl through Her Mother v. State of Madhya Pradesh* 2022 SCC OnLine MP 1416; and *XYZ Prosecutrix v. State of Madhya Pradesh* 2022 SCC OnLine MP 3195.

98 *Harinarayan v. State of Madhya Pradesh* 2022 SCC OnLine MP 1851 at para 12; and *Francis v. State of Kerala* 2022 SCC OnLine 4335 at para 95 : (2022) 4 KLT 469.

99 2022 SCC OnLine Cal 209 at para 14 : 2022 Cri LJ 1581 : (2022) 1 Cal LT 233.

100 *Id.* at para 33.

child.¹⁰¹ She could not reveal this crime due to threat of dire consequence from the accused. During investigation DNA test established genetic relationship between the child (now adult) and the accused. The court dismissed the petition of the accused on the strength of well-founded legal principle that “the court cannot overlook the fact that in sexual offences delay in lodging the FIR can be due to variety of reasons particularly the reluctance of the prosecutrix or her family members to go to the police and complain about the incident which concerns that reputation of the prosecutrix and the honour of the family. It is only after giving it a cool thought that a complaint of sexual offence is generally lodged.”¹⁰²

In case request for DNA test for paternity determination is made by a child born on account of rape committed upon his mother, the applicability of case law ratio¹⁰³ like ‘eminent need’ related to civil disputes under section 112 of the Indian Evidence Act, 1872 does not apply, since such matters to determine parentage deals with ‘protective jurisdiction’ of court, held the High Court of Himachal Pradesh.¹⁰⁴ The high court further observed, “As the plaintiff was not born out of wedlock, therefore, she is carrying stigma of an unwanted child born on account of rape committed by the defendant with her mother. Therefore, determination of paternity by DNA Profiling shall not cause any adverse impact upon her status, rather it would be in her interest to know truth about her biological father so as to entitle her to civil consequences arising thereto, in the interest of complete justice”.¹⁰⁵

However, in a POCSO case, the high court quashed the entire criminal proceedings and the order taking cognizance by the trial court since DNA report does not indicate the petitioner accused as the genitor (biological father) of the foetus.¹⁰⁶ Contrarily, in yet another POCSO case where a 12-year girl got impregnated by a 45-year-old relative, however, DNA excluded him as biological father of foetus. The accused petitioner approached high court to quash the criminal proceeding. Referring ratio of the apex court in *Sunil v. State of Madhya Pradesh*,¹⁰⁷ the high court dismissed the petition after observing that “the unmistakable inference would be, if a positive result of the DNA comes about against the accused, it would constitute clinching evidence against him for further proceeding. If the result is negative *i.e.*, favouring the accused, then the weight of

101 *Suresh Garodia v. State of Assam* 2022 SCC OnLine Gau 1227.

102 *State of Punjab v Gurmit Singh*(1996) 2 SCC 384 at para 8.

103 *Supra* note 42; *Goutam Kundu v. State of W.B.*, (1993) 3 SCC 418; *Kamti Devi v. Poshi Ram*, (2001) 5 SCC 311; *Sharda v. Dharmpal*, (2003) 4 SCC 493; *Banarsi Dass v. Teeku Dutta*, (2005) 4 SCC 449; *Bhawani Prasad Jena v. Convener Secretary Orissa State* (2005) 4 SCC 449; *Bhawani Prasad Jena v. Convener Secretary Orissa State Commission for Women*, (2010) 8 SCC 633; and *Dipanwita Roy v. Ronobroto Roy*, (2015) 1 SCC 365,

104 *Ram Lal v. State of Himachal Pradesh* 2022 SCC OnLine HP 515 at para19 : AIR 2022 HP 74 : (2022) 2 HLR 377.

105 *Id.* at para 28.

106 *Sanjay Prasad v. State of Jharkhand* 2022 SCC OnLine Jhar 1184 at paras 11 and 12.

107 (2017) 4 SCC 393.

other materials and evidence on record will still have to be considered for corroboration. Therefore, it does not form such clinching evidence that would result in termination of proceedings against the accused, the petitioner in the case at hand.”¹⁰⁸

In a POCSO case namely *Durjyo Karmakar v. State of Tripura*,¹⁰⁹ a 15-year-old girl gave birth to a child and DNA connected the accused as pater of the neonatal child born to the prosecutrix. The high court acquitted the accused by reversing the conviction order of the trial court since the expert conducting DNA test was not examined, and the presumption under Section 29 of the POCSO Act can very much raised against the accused-appellant. However, the accused never rebutted the presumption contesting that victim was not sexually abused forcibly.

Termination of pregnancy

The Medical Termination of Pregnancy Act, 1971 and its amendment vide Act no. 8 of 2021 [sub-section (2) of section (3)], are relevant for termination of rape induced pregnancy. High Court of Delhi held that “... in terms of the Explanation so introduced where the pregnancy is alleged by a pregnant woman to have occurred on account of rape or sexual assault, the anguish caused by the pregnancy is presumed to constitute a grave injury to the mental health of the pregnant woman. It becomes relevant to note that Section 3(2) deals with situations where pregnancy has not exceeded 20 or 24 weeks. The mental anguish and injury to mental health that may be faced by a pregnant woman in case of rape is statutorily ordained to be presumed”.¹¹⁰ The Court further observed, “It becomes pertinent to note that the Act deals with pregnancies which may extend up to 24 weeks. The decisions of the Court in *Surekha Gautum Khobragade*,¹¹¹ and *Pratibha Gaur v. Government of GNCT Delhi*,¹¹² have however recognized the power of the Court in exceptional situations to invoke its extraordinary powers conferred by the Constitution where the provisions of the Act when strictly construed may not sanction a termination of pregnancy.”¹¹³

Legal conundrum in the POCSO Act, 2012

The POCSO Act is a special enactment purposefully construed to align the Indian legal framework with the United Nations Child Right Convention, 1989 in order to protect children from sexual exploitation and abuse. The Act is asexual applying irrespective of gender of the victim. Word ‘rape’ is cautiously replaced by the phrase ‘penetrative sexual assault’ to minimize ignominy for disclosing and

108 In the matter of State, by T.N. Pura Police Station, represented by the State Public Prosecutor, 2022 SCC OnLine Kar 1542 at para 14.

109 2022 SCC OnLine Tri 644 at para 27.

110 *X v. State (NCT of Delhi)* 2022 SCC OnLine Del 2642 at para 4. Also see:

111 *Surekha Gautam Khobragade v. State (NCT of Delhi)* W.P. (CRL) 69/2021 decided on Jan. 14, 2021 by High Court of Delhi. Also see: *XYZ v. State of Maharashtra* 2021 SCC OnLine Bom 3353.

112 2021 SCC OnLine Del 5573.

113 *Supra* note110 at para 7.

reporting these offences. The POCSO constitute sexual offences as statutory and consent of a minor victim is immaterial to determine guilt of an accused. However, there exist several legal lacunae in this piece of legislation such as lack of procedural protocol to determine age of the subject, punishing minor male even if both are minors indulging in consensual sex. In *State of Himachal Pradesh v. Shiv Lal*¹¹⁴ an unmarried minor girl gave birth to a child, and DNA established both prosecutrix and the defendant as the parents of the child. Minor age of the prosecutrix was never challenged by the defense, however, the prosecutrix and her mother as a complainant of FIR got hostile during trial. It is a clear case of statutory penetrative sexual assault (rape), consent of the victim or her marriage with the accused are baseless arguments in the eye of law. Overlooking cogent matching DNA report, the trial court and the high court acquitted the accused. Such legal interpretation grossly vitiates legislative intent behind the POCSO Act, although it may support social causes and customary realities. Such legal construal may indorse prevailing social evil of child marriage in India. In *Independent Thought v. Union of India*,¹¹⁵ the apex court has firmly addressed this issue and read down Exception-2 of Section 375 of the Indian Penal Code.¹¹⁶

In *Jitendra Singh v. State of Himachal Pradesh*,¹¹⁷ a POCSO case where the prosecutrix was about 17 years old, the high court reduced the punishment after observing, “There is no positive evidence on record indicating that victim or anybody else had ever disclosed her age to the appellant and there is also nothing on record to establish that appearance and physique of the victim was such so as to enable to construe by any prudent man that she was minor having age below 18 years”. It is quite strange interpretation likely to challenge objectives of the special law like POCSO. In statutory rape, consent of victim is immaterial for determination of culpability.

Medico-legal examination

The apex court in *Mayur Panabhai Shah v. State of Gujarat*,¹¹⁸ observed that “our courts have always been taken the doctors as witnesses of truth”. Even where a doctor has deposed in court, his evidence has to be appreciated like the evidence of any other witness and there is no irrebuttable presumption that a doctor is always a witness of truth.”

Age determination

Age determination with reasonable certainty faced medico-legal challenges since long. In *Kathua Gang Rape* case,¹¹⁹ the apex court has deliberated the issue

114 2022 SCC OnLine HP 5527.

115 (2017) 10 SCC 800 : (2018) 1 SCC (Cri) 13 : 2017 SCC OnLine SC 1222.

116 GK Goswami and Siddhartha Goswami, “No’ to Marital Rape Exemption in Indian Law: Stepping Stone to Gender Justice” 7 *JOLT-I* 18-37 (2017-2018).

117 2022 SCC OnLine HP 5143 at para 13. Also see: *R. v. Prince* (1875) LR 2 CCR 154.

118 (1982) 2 SCC 396. Also see: Section 291 of the Cr PC.

119 This barbaric incident involved abduction, gang rape and murder of an eight-year-old Muslim girl by seven accused in January 2018 in Rasana village near Kathua, Jammu and Kashmir.

at length for adjudicating the claim of juvenile by one of the accused.¹²⁰ In *Rishipal Singh Solanki v. State of U.P.*,¹²¹ the Supreme Court has considered its earlier decisions¹²² on age determination. The court held that only in the cases where certificates are found to be fabricated and manipulated, the Juvenile Justice Board need to go for medical report. In this case, after due consideration of all its earlier decisions, the apex court held as below:¹²³

33. What emerges on a cumulative consideration of the aforesaid catena of judgments is as follows:

33.1. A claim of juvenility may be raised at any stage of a criminal proceeding, even after a final disposal of the case. A delay in raising the claim of juvenility cannot be a ground for rejection of such claim. It can also be raised for the first time before this Court.

33.2. An application claiming juvenility could be made either before the Court. or the JJ Board.

33.2.1. When the issue of juvenility arises before a Court, it would be under sub-section (2) and (3) of section 9 of the JJ Act, 2015 but when a person is brought before a Committee or JJ Board, section 94 of the JJ Act, 2015 applies.

33.2.2. If an application is filed before the Court claiming juvenility, the provision of sub-section (2) of section 94 of the JJ Act, 2015 would have to be applied or read along with subsection (2) of section 9 so as to seek evidence for the purpose of recording a finding stating the age of the person as nearly as may be.

33.2.3. When an application claiming juvenility is made under section 94 of the JJ Act, 2015 before the JJ Board when the matter regarding the alleged commission of offence is pending before a Court, then the procedure contemplated under section 94 of the JJ Act, 2015 would apply. Under the said provision if the JJ Board has reasonable grounds for doubt regarding whether the person brought before it is a child or not, the Board shall undertake the process of age determination by seeking evidence and the age recorded by the JJ Board to be the age of the person so brought before it shall, for the purpose of the JJ Act, 2015, be deemed to be true age of that person. Hence the degree of proof required in such a proceeding before the JJ Board, when an application is filed seeking a claim of juvenility

120 *State of Jammu and Kashmir v. Subham Sangra* 2022 SCC OnLine SC 1592.

121 (2022) 8 SCC 602 at para 33.

122 *Parag Bhati v. State of U.P.* (2016) 12 SCC 744; *Sanjeev Kumar Gupta v. State of Uttar Pradesh* (2019) 12 SCC 370; *Abuzar Hossain@ Gulam Hossain v. State of West Bengal* (2012) 10 SCC 489; *Ashwani Kumar Saxena v. State of Madhya Pradesh* (2012) 9 SCC 750; *Babloo Pasi v. State of Jharkhand* (2008) 13 SCC 133; *Arnit Das v. State of Bihar* (2000) 5 SCC 488; and *Jitendra Ram @ Jitu v. State of Jharkhand* (2006) 9 SCC 428.

123 *Supra* note 121 at para 33.

when the trial is before the concerned criminal court, is higher than when an inquiry is made by a court before which the case regarding the commission of the offence is pending (vide section 9 of the JJ Act, 2015).

33.3. That when a claim for juvenility is raised, the burden is on the person raising the claim to satisfy the Court to discharge the initial burden. However, the documents mentioned in Rule 12(3)(a)(i), (ii), and (iii) of the JJ Rules 2007 made under the JJ Act, 2000 or sub-section (2) of section 94 of JJ Act, 2015, shall be sufficient for prima facie satisfaction of the Court. On the basis of the aforesaid documents a presumption of juvenility may be raised.

33.4. The said presumption is however not conclusive proof of the age of juvenility and the same may be rebutted by contra evidence let in by the opposite side.

33.5. That the procedure of an inquiry by a Court is not the same thing as declaring the age of the person as a juvenile sought before the JJ Board when the case is pending for trial before the concerned criminal court. In case of an inquiry, the Court records a prima facie conclusion but when there is a determination of age as per sub-section (2) of section 94 of 2015 Act, a declaration is made on the basis of evidence. Also, the age recorded by the JJ Board shall be deemed to be the true age of the person brought before it. Thus, the standard of proof in an inquiry is different from that required in a proceeding where the determination and declaration of the age of a person has to be made on the basis of evidence scrutinized and accepted only if worthy of such acceptance.

33.6. That it is neither feasible nor desirable to lay down an abstract formula to determine the age of a person. It has to be on the basis of the material on record and on appreciation of evidence adduced by the parties in each case.

33.7. This Court has observed that a hyper-technical approach should not be adopted when evidence is adduced on behalf of the accused in support of the plea that he was a juvenile.

33.8. If two views are possible on the same evidence, the court should lean in favour of holding the accused to be a juvenile in borderline cases. This is in order to ensure that the benefit of the JJ Act, 2015 is made applicable to the juvenile in conflict with law. At the same time, the Court should ensure that the JJ Act, 2015 is not misused by persons to escape punishment after having committed serious offences.

33.9. That when the determination of age is on the basis of evidence such as school records, it is necessary that the same would have to be considered as per Section 35 of the Indian Evidence Act, inasmuch

as any public or official document maintained in the discharge of official duty would have greater credibility than private documents.

33.10. Any document which is in consonance with public documents, such as matriculation certificate, could be accepted by the Court or the JJ Board provided such public document is credible and authentic as per the provisions of the Indian Evidence Act viz., section 35 and other provisions.

33.11. Ossification Test cannot be the sole criterion for age determination and a mechanical view regarding the age of a person cannot be adopted solely on the basis of medical opinion by radiological examination. Such evidence is not conclusive evidence but only a very useful guiding factor to be considered in the absence of documents mentioned in Section 94(2) of the JJ Act, 2015.

The apex court has advised to explore more sophisticated techniques for age determination used across the world. The court noticed, “For example, the United States Immigration Department uses ‘wisdom teeth’ technique for determination of age. Under this technique, the doctors examine the third molar which usually erupts between 17 to 25 years of age. The average error, in this technique is also significantly lower than the ossification of any other bone. Another technique is ‘epigenetic clock’ technique. The Epigenetic clock is DNA clock which measures DNA methylation levels to estimate the age of a tissue or an organ. The median error in this technique can be reduced to less than four weeks. What we are trying to convey is that such techniques should be introduced in our country as well”.¹²⁴ The court further held that “... medical expert’s estimate of age may not be a statutory substitute for proof and is only an opinion but such opinion of an expert should not be brushed aside or ignored when the Court itself is in doubt in regard to the age of a citizen claiming constitutional protection. In the absence of all other acceptable materials, if such opinion of the experts points to a reasonable possibility regarding range of his age, the Court must consider the same in the interest of justice.”¹²⁵

Voice Spectroscopy

“Voice sample in a sense resembles fingerprints and hand writing, each person has a distinctive voice with characteristic features dictated by vocal cavities and articulates” observed the High Court of Punjab and Haryana.¹²⁶ Earlier, the apex

124 *State of Jammu & Kashmir v. Shubam Sangra* 2022 SCC OnLine SC 1592 at para 76.

125 *Id.* at para 77. Also see: *Ramdeo Chauhan alias Raj Nath v. State of Assam* [(2001) 5 SCC 714], where the apex court observed, “Of course the doctor’s estimate of age is not a sturdy substitute for proof as it is only his opinion. But such opinion of an expert cannot be sidelined in the realm where the court gropes in the dark to find out what would possibly have been the age of a citizen for the purpose of affording him a constitutional protection. In the absence of all other acceptable materials, if such opinion points to a reasonable possibility regarding the range of his age it has certainly to be considered.”

126 *Sunil Kumar Gulati v. State of Punjab* 2022 SCC OnLine P&H 786 at para 9 : (2022) 2 RCR (Cri) 738 : (2022) 3 AICLR 271. Also see: *Ravi Prakash Sharma v. State of Punjab* CRR-531-2022, decided on Mar. 30, 2022 by Punjab-Haryana High Court.

court held that tape recorded statement is an admissible evidence.¹²⁷ The consent of the subject for recording conversation is not required under the law since it would defeat the very purpose of recording.¹²⁸ In *Karim v. State (NCT of Delhi)*,¹²⁹ High Court of Delhi held that a conversation between accused and third party confessing a crime got recorded on a mobile phone, if used later as evidence, is equivalent to an extra-judicial confession, which could be used for corroboration. It does not amount a confession before police.

In *Om Prakash v. State (NCT of Delhi)*,¹³⁰ High Court of Delhi responded to a legal question for not obeying the court order for undergoing medical examination (for facial comparison and voice sampling) by a suspect person. The court held that the police officer shall not forcibly take the petitioners to the FSL and “the petitioner may choose not to comply with the order subject to having the risk of suffering an adverse inference”.¹³¹ In yet another case, citing *Ashok Kumar v. Raj Gupta*,¹³² High Court of Delhi has denied to direct the subject for providing his photograph and voice samples without his consent for forensic analysis.¹³³ Indeed *Ashok Kumar* case largely dealt with civil disputes for DNA based paternity determination, and forensic jurisprudence especially for collecting bodily samples distinctly varies for adjudicating criminal and civil matters. The Supreme Court of India has distinctly pondered the issue of ordering for voice sample in celebrated *Ritesh Sinha* case.¹³⁴ The apex court held “...that until explicit provisions are engrafted in the Code of Criminal Procedure by Parliament, a Judicial Magistrate must be conceded the power to order a person to give a sample of his voice for the purpose of investigation of a crime. Such power has to be conferred on a Magistrate by a process of judicial interpretation and in exercise of jurisdiction vested in this Court under Article 142 of the Constitution of India.”¹³⁵

Deception detection techniques (DDTs)

DDTs are the vital forensic tools to reach out to truth in cold cases where otherwise investigator is clueless. These techniques primarily include Narco-analysis, Polygraph (Lie detector), and Brain mapping. However, in the recent past

127 *Ram Singh v. Col. Ram Singh* AIR 1986 SC 3: 1985 SCR Supl. (2) 399. Also see: *Saddam Prasad Thakur v. State of Chhattisgarh* 2022 SCC OnLine Chh 1075; and *Satish Kumar Kajal v. State (through) Centra Bureau of Investigation* 2022 SCC OnLine Bom 465 : (2022) 2 AIR Bom R (Cri) 74 : 2022 Cri LJ 1708 :(2022) 3 AICLR 168.

128 *Supra* note at 126 at para 15.

129 (2022) 5 High Court Cases (Del) 386 at paras 26 and 28 : 2022 SCC OnLine Del 2703. Also see: *Gura Singh v. State of Rajasthan* (2001) 4 SCC 205 at para 6.

130 2022 SCC OnLine Del 4431. Also see: *Supra* note 42 at 6.

131 *Id.* at para 8.

132 *Supra* note 42.

133 *Om Prakash v. State (NCT of Delhi)* 2022 SCC OnLine Del 4431 at para 7.

134 *Ritesh Sinha v. State of U.P.*, (2019) 8 SCC 1: (2019) 3 SCC (Cri) 252 : 2019 SCC OnLine SC 956. Also see: G.K. Goswami and Siddhartha Goswami, “Obligated Voice Sampling: A Judicial Endorsement in *Ritesh Sinha v. State of Uttar Pradesh*” 61(4) *JILI* 455-462 (2019).

135 *Id.* at 12, para 27.

few more techniques such as Forensic Psychological Assessment test and Layered Voice Analysis (LVA) test have also helped to reveal truth behind a hidden fact crucial for adjudication. Free and informed consent of the subject is required prior to conduct such tests.¹³⁶ The expert opinion related to any DDT, till date, is not admissible evidence *per se* in the courtroom, but it may sometime help in investigation as a lead input.¹³⁷ However, on the basis of such inputs, if any recovery of incriminating items or fact under section 27 of the Indian Evidence is made, that portion of DDT disclosure becomes relevant and admissible in the court of law. No leading question can be asked to the subject during DDT examination by a forensic expert since even leading question may not be asked during examination-in-chief or re-examination during trial except with the permission of the court. However, during cross-examination such type of questions may be asked.¹³⁸

In general, DDT tests are being conducted on behest of the investigator after obtaining court order. Interestingly, in *Sunil Bhati v. State of Rajasthan*,¹³⁹ the high court on the request of the accused allowed him to undergo Narco-test after observing that denial of facing the test to the petitioner “would not only be detrimental to the cause of justice, but shall also be a clear violation of his statutory right envisaged under Section 233 CrPC”. Forensic Science promotes scientific temper in evidence collection, and denial for collection of forensic evidence in the name of ‘liberty’ to the investigator would result in depriving the accused of his valuable right to defend himself during trial. The new judicial approach not only ensure level playing field between the prosecution and defendant during the process of evidence collection, but also brace right for scientific investigation and fair trial envisaged under Article 21 of the Indian Constitution. In *Common Cause v. Union of India*,¹⁴⁰ the apex court held, “What is of importance is that as justice must not only be done but it must also appear to have been done, similarly, investigations must not only be fair but must appear to have been conducted in a fair manner.”

136 *Selvi v. State of* (2010) 7 SCC 263 at paras 240, 242. Also see; *Ram Prakash v. State of U.P.* 2022 SCC OnLine All 288 at para 7; (2022) 119 ACC 935; and *Ashok Kumar v. State of U.P.* 2022 SCC OnLine All 289 at para 16.

137 *Id.* at para 264.

138 *Ram Prakash v. State of U.P.* 2022 SCC OnLine All 288 at para 8; (2022) 119 ACC 935.

139 2022 SCC OnLine Raj 1443 at para 20. Also see: *Sidhu Yadav @ Siddharth v. State of NCT of Delhi* (CRL.M.C. 1150/2017) decided by High Court of Delhi on Mar. 21, 2017; and *Yogesh @ Charu Ananda Chandane v. State of Maharashtra* (Crl.W.P. 2420/2016, decided by Bombay High Court on 27 July 2018).

140 (2015) 6 SCC 332 at para 35. In *CCE v. Jainson Hoisery Industries* [(1979) 4 SCC 22] at para 1, the court held that “The investigation of a criminal offence is a very sensitive phase where the investigating authority has to collect evidence from all odd corners and anything that is likely to thwart its course may inhibit the interests of justice.”

Fingerprints and footprints

Fingerprints *ipso facto* cannot lead to conviction.¹⁴¹ The apex court in *Pritam Singh v. State of Punjab*¹⁴² and *Balbir Singh v. State of Punjab*¹⁴³ has found that footprints are a weak and rudimentary evidence. Fingerprints collected at a crime scene from all personnel who were at the crime scene and who might have inadvertently touched physical evidence, are known as ‘elimination prints’, and must be collected to eliminate the possibility of known person. In *Hari Om @ Hero v. State of UP*¹⁴⁴ the court acquitted the accused, on the ground that the fingerprint expert’s opinion, even if accepted, would not have been the sole basis of conviction. In *Sonvir v. State (NCT) of Delhi*,¹⁴⁵ it was held that the provisions of the Identification of Prisoners Act, 1920, were not mandatory, but rather directory, and they only affirm the *bona fides* of the sample-taking (of the fingerprints of an accused) and eliminate the possibility of evidence fabrication. In another case, High Court of Calcutta discarded the matching fingerprint considering them manufactured by the prosecution since the accused complaint before the magistrate at the earliest opportunity that he was asked to touch Kinley bottle, and the same item was later used by the investigator to lift the chance fingerprint.¹⁴⁶ The court in *Manoj v. State of M.P.* held that non-compliance of the provisions for lifting fingerprints samples under the Prisoner’s Identification Act, 1920 would not *per se* vitiate the evidence.¹⁴⁷

V CONCLUSION

Fair trial demands transparent and unbiased process of evidence collection and forensic tests are capable to meet the requirement by scrupulously providing neutral expert opinion which may be interpreted for corroboration either as inculpatory (to prove culpability) or exculpatory (bracing innocence) evidence. Scientific and technological intervention in decision making during investigation fittingly reinexcessive and feral discretion and reduce arrogance and corruption. It is long awaited that law-makers must explicitly define and explain term ‘expert’ enshrined under section 45 of the Indian Evidence Act, 1872.¹⁴⁸ Legislature must keep pace with innovations and discoveries from evolving sciences for self-introspection. Further, in adversarial system, the experts may depose either as a prosecution witness or a defense witness, but ideally, they should represent as

141 *Hari Om @ Hero v. State of U.P.* (2021) 4 SCC 345AIR 2021 SC 402; *Mohd. Aman v. State of Rajasthan* (1997) 10 SCC 44; and *Chandran @ Surendran v. State of Kerala* 1991 Supp (1) SCC 39.

142 AIR 1956 SC 415.

143 (1996) 6 Scale 72.

144 *Supra* note 141. Also see: *Gaurav Pandey v. State of Madhya Pradesh* 2022 SCC OnLine MP 1793 at para 112 : (2022) 3 AICLR 417.

145 (2018) 8 SCC 24.

146 *Mongal Sahani v. State of West Bengal* (2022) SCC OnLine Cal 3821 at para 30.

147 *Manoj v. State of Madhya Pradesh* 2022 SCC OnLine MP 677. Also see: *Ashish Jain v. Makrand Singh* (2019) 3 SCC 770.

148 *State of Himachal Pradesh v. Jai Lal* (1999) 7 SCC 280.

deponent in the courtroom as a ‘witness of science’, for bracing truth. It must be considered to legislate change-in-science laws to create mechanism enabling people convicted based on now debunked or discredited forensic procedures to have their case reviewed to correct mistaken (in)justice. Forensic Science has emerged as bulwark from miscarriage of justice, but it needs dedicated and consistent research to make course corrections to ensure reliability, accuracy and reproducibility.¹⁴⁹ Moreover, it is pressing need to address confirmation bias, a perpetual challenge for forensic practitioners.¹⁵⁰ Towering expert claims derived from prejudices and conjectures result in miscarriage of justice, and forensic practitioners must refrain from professional misconducts.

In *Rahul v. State of NCT Delhi*¹⁵¹ (publicly known as *Chhawla* gang rape and murder case of February 2012), the apex court has exonerated all convicts on death row. Prosecution case was supported by recovery of the dead body on behest of the accused, recovery of several items of the victim including her mobile phone, car used for abduction, weapon for murder, cogent DNA evidence connecting crime with criminals. However, this case dealing gruesome crime compels to address several vital canons of criminal procedure law. The issue remains whether scientific evidence can simply be brushed aside merely on presumption that “the possibility of tampering with the samples collected also could not be ruled out”, especially in absence of specific counter evidence placed by the defendant to collect his biological sample such as semen by the prosecution for the purpose of fabrication. This appears glaring case where lackadaisical approach in investigation frustrated every purpose of justice system. The erring investigating team in such cases must be dealt with iron hands. Interestingly, another bench of the apex court for an appeal against conviction for rape with murder held that an accused is not entitled for acquittal solely based on the lapse in investigation such as omission of non-conducting DNA.¹⁵² Earlier, the apex court held that “If offenders are acquitted only on account of flaws or defects in investigation, the cause of criminal justice becomes the victim. Effort should be made by courts to see that criminal justice is salvaged despite such defects in investigation.”¹⁵³

Due attention is desired towards consistent conundrum prevailing in the apex court judgments regarding mandatory or voluntary nature to conduct DNA test under section 53-A of the procedure code. Similarly conflicting judgments on paternity determination under section 112 of the Indian Evidence Act and by using DNA also deserve due attention for review. In fact, in the interest of flawless justice, forensic evidence needs detailed understanding at the level of every stakeholder involved in the criminal justice administration irrespective of their

149 Laura C. Fulginiti, “Standing up for forensic science” *Journal of Forensic Sciences* 8 (2022). DOI:10.1111/1556-4029.15153

150 *Supra* note 141 at paras 25, 38-41, and 43.

151 2022 SCC OnLine SC 1532.

152 *Supra* note 26.

153 *State of West Bengal v. Mir Mohammed Omar* (2000) 8 SCC 382.

post, position or dispensation. In 21st Century, fusion of science with law for enabling access to transparent and timely justice is globally accepted necessity, and India must accept this pressing reality and challenge at the earliest. Indian Parliament is currently processing for overhauling the substantive and procedural criminal legal regime, and *hoi polloi* inquisitively hope to suitably incorporate legal provisions for promoting scientific and forensic tamper in evidencing process and its appreciation in the courtrooms.