

## The DNA Technology (Use & Application) Regulation Bill, 2019 *vis-a-vis* Data Privacy

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*“It’s the little details that are vital. Little things make big things happen.”*–  
John Wooden

### ***Abstract***

*About a decade ago, the whole nation was in a state of perplexity when news channels showed that a certain person “Rohit Shekhar Tiwari” had filed a parenthood suit against a political stalwart, Mr. Narayan Dutt Tiwari (three-time CM of Uttar Pradesh). The prolonged as well as acrimonious tussle was only settled after a decision of the Delhi High Court<sup>1</sup> stating that Narayan Dutt was duty-bound to undergo the DNA mapping test which eventually confirmed the paternity! Failing to refute the Science behind it, Mr. Narayan Dutt had to agree to take Rohit as his own and also married his mother. This long-stretched saga/ drama could only end after the interference of the ‘now so prominent’ technology of DNA test.<sup>2</sup> In India, DNA examinations got their legitimacy vide *Kunhiraman v. Manoj*,<sup>3</sup> (a paternity suit). The court accepted the DNA Analysis u/s 45 of the Evidence Act, 1860 (Expert Opinion). 99.9% of the DNA is identical among all the individuals and it is the little things and little details which make big things happen. The 0.1% of DNAs, i.e. out of 100 trillion cells it is only the 0.1% which helps in decoding the individuality of one person from another.<sup>4</sup>*

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<sup>1</sup>Rohit Shekhar v. Narayan Dutt Tiwari, FAO(OS) No. 547/2011.

<sup>2</sup>Shubham Borkar, *DNA Profiling in India (Towards the New Age DNA Technology Use & Application Bill, 2018)*, MONDAQ, (Feb 2019), [www.mondaq.com](http://www.mondaq.com). See also, Sobhana K. Nair, *DNA Bill can be Misused for Caste-Based Profiling, Says Panel Draft Report*, THE HINDU, 24<sup>th</sup> August, 2020. (last accessed on 13/03/2021)

<sup>3</sup>*Kunhiraman v. Manoj*, II (1991) DMC 499.

<sup>4</sup>Monjur Kader, Stella Tan Wei Ling, Sabrina Kuan Ling Li, *The Use of DNA Forensic Evidence in Criminal Justice*, 29 SING. L. REV. 35(2011).

*Use of DNA and other scientific means have made effective the administration of today's criminal justice system. Indian judiciary as well as the Constitution of India and other allied laws have made amendments to make DNA forensics legal in myriad of cases. Countries such as USA, UK, etc. have been using this technology with effective laws in place, following their footsteps India decided to bring in a law regulating the use of DNA, the proposed DNA Bill raises a question-mark over one's privacy of data given through DNA and it is the need of the hour to pass a data protection Bill before this DNA Bill is passed for right to privacy is an absolute fundamental right.*

Keywords: Data Privacy, DNA Analysis, Evidentiary value

## Introduction

DNA, the acronym for Deoxyribonucleic Acid, is the fundamental strand and the building block of our life and the identity which one receives from his/her forefathers (half of it from father and the other half from mother). No two persons can have the same DNA patterns for it is a kind of inimitable identity card given to us on our birth by the nature itself, albeit for the only exception being if they're identical twins!

DNA, also called as genetic blueprint of life was defined by Nobel Prize scientist Francis H.C. Crick and James Watson in 1953<sup>5</sup>. English Scientist, Alec Jeffreys, who founded and used to effect the first modern-day DNA analysis system in the *Colin Pitchfork*<sup>6</sup> case. This case showed the world, the future of criminal investigation and how imperative this forensic tool will be.

Prior to the introduction of this technology, the criminal investigation and justice system and the whole apparatus relied heavily on the conventional evidences like testimony from a witness, who, in a plethora of cases would turn hostile and leave the investigative agencies in utter embarrassment. Later on, blood found at the crime scene was also used by law enforcement agencies but blood samples didn't remain constant/usable over the longer period as compared to the DNA material which remains usable for an interminable stretch and also, it endorsed the principle of presumption of innocence whereby the guilt has to be established well beyond a reasonable doubt, a principle which almost every criminal justice system is based upon.<sup>7</sup>

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<sup>5</sup>Himanshu Pandey & Anitha Tiwari, *Evidential Value of DNA: A Judicial Approach*, BHARTI LAW REVIEW (January- June 2017).

<sup>6</sup>R. v. Pitchfork, Case No: 2008/04629/ AI, EWCA Crim 963 (14 May 2009) (hereafter Colin Pitchfork case).

<sup>7</sup>Khaleda Parven, *Forensic Use of DNA Information v. Human Rights and Privacy Challenges*, 17 U.W. SYDNEY L. REV. 41 (2013).

DNA technology has had a scientific backing and has been considered more accurate than other crime scene evidence.<sup>8</sup> Apart from the bright, sunny and positive side of DNA based technology, the grimy and soiled side too exists, whereby the DNAs are being misused (for example, determining genetic flaws which would belittle the personal in society, determining such medical ailments which one would like to conceal, familial relations, etc. Take for example the infamous Aarushi Murder Case, according to different outlets of Media the case was sabotaged by tampering the DNA traces.<sup>9</sup> CDFD, Hyderabad in its report to CBI explicitly mentioned that Aarushi's vaginal swabs were replaced with that of an unidentified woman.

Furthermore, DNA mapping/fingerprinting has been used conclusively not just to convict one person but also exonerate persons wrongfully detained because of a fake testimony, wrong assumption or with a planted evidence.

One might wonder as to where all this DNA evidence is found at a crime scene or what can find it. A short table is formulated to better understand the probable samples that can be collected from the crime scene and what samples can be adduced from the human body of the criminal/suspect/victim:

**Table 2.1:** Probable Samples and the Crime Scene

EVIDENCE	PROBABLE POSITION OF THE DNA	FOUNTAINHEAD OF THE DNA
Clothes/ Laundry	Surface of the cloth	Blood stains, semen and body sweat (skin cells)
Nails	Under the nails	Blood, skin/tissues
Bite-marks	Skin	Saliva (Buccal/cheek cells)
Toothpick/ Floss	The toothpick/ Floss	Saliva and/or tissue
Gun bullet	Clothes and skin	Tissue, blood

<sup>8</sup> Karen Norrgard, *Forensics, DNA Fingerprinting, and CODIS*, NATURE EDUC. (2008), <https://www.nature.com/scitable/topicpage/forensics-dna-fingerprinting-and-codis-736> (last accessed on 13/03/2021)

<sup>9</sup>Praveen Swami, *Arushi Murder Case Sabotaged by Dna Tampering*, THE HINDU, 17<sup>th</sup>December, 2016, <https://www.thehindu.com/news/national/Arushi-murder-case-sabotaged-by-DNA-tampering/article16879048.ece> (last accessed on 13/03/2021)

Cap/hat/helmet	The area inside of cap/hat/helmet	Hair follicle, sweat, flakes/dandruff
Bedsheet, blanket, pillow, etc.	Surface area	Saliva, sweat, dandruff, hair, fluids, etc.
Laptop, Mobile phone, landline, PC, electric gadgets	The surface area like the keys, screen, etc.	Sweat, flakes, etc.
Glass, bottle, etc.	The lid and the side area	Saliva
Spectacles and sunglasses	Lens, frame, nose and ears	Skin particles, sweat, saliva

The Constitution of India<sup>10</sup> strives to increase the scientific temper amongst all its citizens by emitting a duty so as to develop the scientific temper, humanism and the spirit of the inquiry and reform and also, to strive towards excellence in all the spheres of individual and collective activity.<sup>11</sup> In order to develop this temper, the Government of India has to foster this habit by implementing a number of policies, guidelines and bringing in legislation in this area like that of the Drugs and Cosmetics Act, 1940<sup>12</sup> Central Council for Medical Act, 1970<sup>13</sup> and the introduction of the most recent one i.e., the DNA Technology (Use and Application) Regulation Bill, 2019, as a need has been felt in the existing framework circumscribing the use, regulation and also storage of DNA data in criminal investigation for offences under the Indian Penal Code, 1860 and identifying the missing persons or the victims of severe disasters (man-made/natural) whose identification becomes difficult. Questions were raised as to why the present framework<sup>14</sup> was not amended, but the Law Commission in its 271st report stated that simply amending the present structure wouldn't help and that there was 'a need to regulate the use of human DNA profiling through a standalone law'<sup>15</sup> so that its use is regulated within such realm of law.

### **DNA Technology (Use & Application) Regulation Bill, 2019**

The DNA Bill was introduced in July 2019<sup>16</sup> by Dr. Harshwardhan, the

<sup>10</sup>IND. CONST., Art 51A.

<sup>11</sup>IND CONST., 1950, Art. 51A(h), Art. 51A(j).

<sup>12</sup>Drugs and Cosmetics Act, 1940, No. 23 of 1992 (India).

<sup>13</sup>The Indian Medicine Central Council Act, 1970, No. 48 of 1970 (India).

<sup>14</sup>The Code of Criminal Procedure, 1973, No. 02 of 1974 (India).

<sup>15</sup>The Law Commission of India, *Human DNA Profiling*, Report No. 271, p. 6.

Minister of Science & Technology. This Bill was opposed by the leader of opposition, Dr. Sudhir Ranjan Chowdhury as well as INC MP Dr. Shahi Tharoor. Both the leaders had their own reservations against Bill stating that it would violate the Fundamental Right of Privacy of the Citizens<sup>17</sup>, and that it would promote surveillance state because there exists no legislation which would protect DNA data of the subjects and it will be like putting the cart before the horse.<sup>18</sup>

Earlier the same bill was introduced in 2018 but lapsed due to the then 16<sup>th</sup> Lok Sabha getting dissolved for elections. Even before the Bill, the Indian Courts had for the very first time witnessed the usage of DNA evidence and in 1988, sent a person to jail on the basis of such an evidence.<sup>19</sup> Attempts have been made in last 20 years to bring in a law which could regulate the usage and storage of DNA but every attempt of successive governments faced strong opposition in the Parliament due to the controversial nature of this law. At first in 2003, two episodes unfolded, firstly the Law Commission in its 185<sup>th</sup> report<sup>20</sup> recommended the inclusion of DNA testing subject to stringent circumstances u/s 112 of the Evidence Act, 1860 and secondly, the Department of Biotechnology established a committee, “DNA Profiling Advisory Committee” to advice for a Bill, which actually became the Human DNA Profiling Bill, 2007<sup>21</sup> which was never introduced in either of the Houses of Parliament.<sup>22</sup> The build upto 2019’s bill was preceded with the following events. In 2012, a new version of the bill was leaked.<sup>23</sup> In 2013, Dept of

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<sup>16</sup>The DNA Technology (Use and Application) Regulation Bill, 2019, PRS INDIA, (2020), <https://www.prsindia.org/billtrack/dna-technology-use-and-application-regulation-bill-2019>. (last accessed on 13/03/2021).

<sup>17</sup>Payel Majumdar Upreti, *What the DNA Profiling Bill means for your Data Privacy*, THE HINDU BUSINESS LINE, 2<sup>nd</sup> August, 2019, <https://www.thehindubusinessline.com/blink/know/what-the-dna-profiling-bill-means-for-your-data-privacy/article28793951.ece#>. (last accessed on 13/03/2021).

<sup>18</sup>Id.

<sup>19</sup>Law Commission of India, *Review of the Indian Evidence Act 1872*, Report No. 185, p. 43, <http://lawcommissionofindia.nic.in/reports/185thReport-PartII.pdf>. (last accessed on 13/03/2021).

<sup>20</sup>Id. at p. 4.

<sup>21</sup>Department of Biotechnology. Ministry of Science & Technology GOI, (Annual Report 2009 – 2010), p. 189, <http://dbtindia.nic.in/annualreports/DBT-An-Re-2009-10.pdf>. (last accessed on 13/03/2021).

<sup>22</sup>The Centre for Internet & Society, *Rethinking DNA Profiling in India*, (2012), <https://cis-india.org/internet-governance/blog/epw-web-exclusives-oct-27-2012-elonnai-hickok-rethinking-dna-profiling-india>. (last accessed on 13/03/2021).

<sup>23</sup>Human DNA Profiling Bill 2012, Working Draft, (29<sup>th</sup> April 2012), <https://cis-india.org/internet-governance/blog/draft-dna-profiling-bill-2012.pdf> WW

Biotechnology formulated an expert committee on the formulation on it. In 2015, the NDA Government planned to table the Bill and so formulated it in the Parliament, and in 2016, the use and regulation of DNA based technology in civil and criminal proceedings.

### **What does the Bill state?**

The bill introduced in 2019 is identical to the one presented in 2018. The Bill provides for identifying and establishing the identity of certain persons (*\*Indices discussed in the table below\**), use of the DNA data (for the matters mentioned in the Schedule<sup>24</sup>) so collected in order to augment effectiveness of the criminal justice system.

While collecting such DNA data, the authorities will have to bear certain conditions/clauses/situations in mind. Firstly, if a person is convicted for an offence which is punishable for more than 7 years, then no consent of the person has to be taken while collecting the data.<sup>25</sup> Secondly, if a person is arrested for a crime which carries punishment for less than 7 years, consent of the person is required before DNA profiling can be done.<sup>26</sup> Thirdly, if the person/s is/are the victims and/or minor/disabled then a written consent would be required.<sup>27</sup> But, if consent is not given in the 2<sup>nd</sup> and the 3<sup>rd</sup> instance mentioned above, the authorities can approach the Magistrate who may give such orders as he deem it fit to be.<sup>28</sup>

A DNA Data Bank will also be established<sup>29</sup> at the National level as well as Regional/Zonal level. These Data Banks will maintain certain indices (*\*Indices discussed in the table below\**). As far as the removal, retention and entry of DNA profiles is concerned; the same will be supervised by specified regulations passed as per the wisdom of the legislature. Nevertheless, the Bill states certain conditions for removal of DNA profiles of the following persons:

1. A suspect, when a court orders to or the police on its own files such report,

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<sup>24</sup>An example is the offenses under the Indian Penal Code, 1860, wherein civil matters so as to establish the paternity and also establishing identity in the case of missing persons and natural disasters.

<sup>25</sup>Section 21(1), The DNA Technology (Use and Application) Regulation Bill, 2019.

<sup>26</sup>Id., Section 21(1).

<sup>27</sup>Id., Section 22(2).

<sup>28</sup>Id., Section 21(3).

<sup>29</sup>Id., Section 25.

2. An undertrial person, when the court commands,
3. A person who had given his/her DNA under the crime scene indexes or if it was present in the missing persons' index, on his/her written request.<sup>30</sup>

The Bill endeavors to formulate a DNA Regulatory Board<sup>31</sup>, which will be at the helm of affairs in administering and regulating the DNA Labs and Banks established pan India. The functions of the board will chiefly comprise of advising the Government apropos the DNA Labs and Banks; giving and revoking accreditation to the Labs and to make sure that confidentiality be maintained as to all the DNA Profiles stored and submitted in the DNA Bank and Labs. If the aforementioned confidentiality is not maintained and DNA is used without authority then, a penalty of such breach which amounts to Rs. 1 Lakh or imprisonment of up to three years is provided for in the Bill.<sup>32</sup>

\*Summary of main profiling category, included in DNA databases\*

<b>DNA PROFILE INDICES/ CATEGORY- TABLE*</b>	
<b>Forensics from Crime Scene</b>	Any objects (like cloth, mucus, tissues, etc) found at the crime scene bearing DNA which can be of any suspect. Such samples can also be found on the deceased/victim's body or clothes.
<b>Accused and Suspects</b>	DNAs of person accused and/or suspected, but for certain specific category of offences only.
<b>Volunteers and Victims</b>	Rape or Sexual Assault victims (provided under section 53(2) of CrPC and persons who have given the DNA voluntarily.
<b>Determination of Parenthood/ Kinship</b>	In civil matters, where the dispute is that of determining the parenthood and kinship, mostly in inheritance and property suit.
<b>Missing persons/ Disaster victim identification</b>	Unidentified persons and missing persons due to kidnapping or natural/ man-made disasters.

<sup>30</sup>Id., Section 31(2).

<sup>31</sup>Id., Section 3.

<sup>32</sup>Id., Section 47.

<b>Deceased- Identity Unknown</b>	Unidentified corpse or remains of a human body.
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The main area of disapproval amongst the masses has been the Catch-22 situation triggered due to the plans of formulating DNA databases. The data stored in these DNA Banks carries an imminent threat to the privacy of every such person whose DNA profile is being kept. As these DNA profiles contain sensitive information, it poses a situation where one's civil liberty is invaded by any wrongful and malafide usage of the data. An article suggested that DNAs, because they contain personal information shouldn't be stored on the databases.<sup>33</sup>

### **Legal & Constitutional Façades of DNAs**

The Parliament has the authority to formulate legislation to develop a scientific temper which would encourage a catena of scientific and technological methods supplementing precision in crime detection in order to speed up the overall investigation.<sup>34</sup> In addition to developing laws on the matter, the Constitution of India also ensures that such an evidence is not used to discriminate and violate the "right against self-incrimination"<sup>35</sup> in any manner and also guaranteeing the protection of life and personal liberty<sup>36</sup> of every such person who gives his or her DNA Profile for any of the purposes.

### **Code of Criminal Procedure, 1970 & Criminal Administrative System**

The Criminal Amendment Act, 2005, substituted the explanation given under the then section 53 and section 54. The new explanation provided the DNAs a veracity and a legal backing; it is in relation to the collection and examination of accused persons' blood, semen, saliva and also collecting as well as processing DNA Profiles and/or samples as per section 53(2)'s explanation. But in 2011, Apex Court pronounced that DNA profiling could have been done even without the amended section 53A of Code of Criminal Procedure (CrPC), they held that the prosecution still had the recourse available to get the DNA tests done in order to make the case fool proof.<sup>37</sup>

<sup>33</sup>Mike Redmavne, *The DNA Database: Civil Liberty and Evidentiary Issues*, CRI. L.R. 437 (1998).

<sup>34</sup>IND. CONST., 1950, Art. 246, List I- Union List No. 65, Seventh Schedule.

<sup>35</sup>IND. CONST. 1950, Art. 20(3).

<sup>36</sup>IND. CONST. 1950, Art. 21.

<sup>37</sup>Krishan Kumar Malik v. State of Haryana, (2011) 7 SCC 130.



Identification of Prisoners Act, 1920 is another legislation which empowers the Investigating Officer (under CrPC) to collect finger as well as footprints' imprint. This Act also empowers the Magistrate so as to give such a direction for taking the measurement.<sup>38</sup>

### **Indian Evidence Act, 1872**

Sections 45 and 112 have been the epitome for the usage and acceptance of DNAs as evidence in the courtroom. It was the fingerprinting evidence which ensued the conviction of former CM of U.P. Shri Amaramani Tripathi for the cold-blooded murder of a pregnant Madhumita Shukla. Upon DNA examination so as to ascertain the paternity, it was adduced that Mr. Tripathi was the father of that foetus.<sup>39</sup> When and if section 45 is applicable then along with its applicability, the ground on which this opinion so derived was based upon u/s 51 too becomes relevant. The Court while exercising the wisdom of Expert u/s 45 strives to reach a reliable conclusion and not just a probability, the Court had agreed to the fact that in matters which include highly scientific methodology, the role of expert cannot be disputed.<sup>40</sup> With reference to accepting the Expert's opinion in the Court, the same judgment laid down certain requirements:

- i. That the Expert must be within a recognized field of know-how;
- ii. That the evidence must be founded on reliable principles, and
- iii. That the Expert must be competent of understanding and dealing with the subject.<sup>41</sup>

Section 112 can be made to look tough upon a husband who has just learned by the DNA test that the child born is not his own but he will have to stand his/her fatherhood because as u/s 112, if the pair is staying together at the time of conception, the conclusiveness as per this law would remain irrebuttable.<sup>42</sup>

### **Family Law & Other Civil Laws**

Forensic Science and other related technological advances in criminal investigation have been extensively used in the matters pertaining to parenthood, ascertaining the legality/illegality of the child born out of wedlock and issues circumscribing the succession as property in India. The leading

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<sup>38</sup>Identification of Prisoners Act, 1920, S. 5.

<sup>39</sup>State of Uttar Pradesh v. Amaramani Tripathi, AIR 2005 SC 3490.

<sup>40</sup>Ramesh Chandra Aggarwala v. Regency Hospitals, AIR 2010 SC 806.

<sup>41</sup>Id.

<sup>42</sup>Kanti Devi v. Poshi Ram, AIR 2001 SC 2226.

case which established the usage of forensics in divorce cases has to be in *Sharda v. Dharampal*<sup>43</sup>, whereby the Supreme Court held that, it is *intra vires* for the Family Court to order a medical test for the person contesting the suit and in spite of such an order, the person refuses the test then in that case the court is entitled to draw interpretations which are contrary. It is worthwhile to note that it is well within the inherent powers of a civil court<sup>44</sup> to order such a test for the sake of seeking justice, truth and maintaining transparency in the judicial and criminal administrative system.

## Right to Privacy

India is party to numerous International treaties which promotes and protects human rights, the foremost amongst them is The International Covenant on Civil and Political Rights, 1966 (ICCPR) and Universal Declaration of Human Rights, 1948 (UDHR).

The Apex Court in *People's Union for Civil Liberties v. Union of India (PUCL)*,<sup>45</sup> corroborated with Article 12 of the UDHR and laid down that the Right under Article 21 of the Constitution of India cannot be curtailed, excluding the procedure laid down by the law of the land. Likewise, ICCPR asserts that, "No one should be subjected to arbitrary or unlawful interference with his privacy" and that everyone has a right against such interference and arbitrariness.<sup>46</sup>

In relation to cases, one of the cases observed that, the right to privacy is not a right which is explicitly pronounced by the Constitution of India<sup>47</sup> and the other observed that such a right must be subject to the restriction based on compelling public interest.<sup>48</sup> With passage of time, the court stated that the right to privacy in itself means the "right to be let alone."<sup>49</sup>

The Apex Court under Article 21 now endorses the Right to Privacy as an absolute right<sup>50</sup> of an individual. Before the Aadhar Card judgement, the Right to Privacy was "not an absolute right and surveillance might well be imposed

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<sup>43</sup>AIR 2003 SC 3450.

<sup>44</sup>Civil Procedure Code, 1908, S. 151.

<sup>45</sup>(1997) 1 SCC 301.

<sup>46</sup>International Covenant on Civil and Political Rights 1966, (ICCPR), Art. 17.

<sup>47</sup>*Kharak Singh v. Union of India*, AIR 1963 SC 1295.

<sup>48</sup>*Govind v. State of Madhya Pradesh*, AIR 1975 SC1378.

<sup>49</sup>*R. Rajagopal v. State of Tamil Nadu*, AIR 1995 SC264.

<sup>50</sup>*Justice K.S. Puttaswamy (Retd.) v. Union of India*, Writ Petition (Civil) 494 of 2012.

on such rights as per the statute.<sup>51</sup> and it took over six decades for the Apex Court to reach a conclusion as to its absolute nature. Irrespective of privacy being that of an absolute nature, the present DNA Bill caused commotion with reference to the usage of data stored by the authorities as well as other legislation and corresponding provisions in existence wherein it is stated that unwarranted invasion of privacy shouldn't occur albeit it is necessary in the larger public interest to do so.<sup>52</sup> In the Puttaswamy judgement, a point contrary to all such legislation were deliberated and Justice Chandrachud in para 181 of the judgement put forth his argument and also questioned "How can you just use any individuals personal data in public interest?"<sup>53</sup>

### Right Against Self Incrimination

The latin maxim, *Nemo Debet Prodere Ipsum*, i.e., no one can be required to be his own betrayer<sup>54</sup> is laid down as a fundamental right in the Constitution of India. An accused has a right so as to not produce any documents or give any testimony which is self-incriminating in nature.<sup>55</sup>

The right against self-incrimination protects a person from being a witness against himself. Although, it was decided that no person can be compelled to provide his/her blood sample for forensics against his/her will and also that no contrary presumption shall be made due to such conduct.<sup>56</sup> However, a Constitutional Bench of the Apex Court, while addressing the constitutionality of taking fingerprint observed that, to be a witness is not equivalent to that furnishing evidence in the broadest of the form.<sup>57</sup> Being a witness means providing some kind of knowledge in the form of a testimony which would convict him/her and not merely the mechanical process of producing any document in the court which contains any information pertaining to the controversy at hand, the only thing to be kept in mind is that it shouldn't comprise any statement founded on the suspect's personal knowledge.

A three-judge bench of the Apex Court, in a landmark judgment,<sup>58</sup> made a

<sup>51</sup>MP Sharma v. Satish Chandra, AIR 1954 SC 300; State of Maharashtra v. Madhukar Narayan Gardikar, AIR 1991 SC 207; Anuj Garg v. Hotel Assn' of India, AIR 2008 SC 663.

<sup>52</sup>Right to Information Act, 2005, S. 8(j).

<sup>53</sup>*Supra Note* No. 50, Para 181.

<sup>54</sup>Shiv Narayan Dhingra, *Right to Silence of the Accused under Constitution of India*, 41 JCPs 32 (2007).

<sup>55</sup>State of Gujarat v. Shyamlal Mohanlal Choksi, AIR 1965 SC 1251.

<sup>56</sup>Goutam Kundu v. State of West Bengal, (1993) 3 SCC 418.

<sup>57</sup>State of Bombay v. Kathi Kalu Oghad, AIR 1961 SC.1808.

<sup>58</sup>Smt. Selvi & Ors. v. State of Karnataka, AIR 2010 SC 1974.

well thought out decision that the polygraph & BEAP tests, narco-analysis and other scientific techniques when used on a person ‘involuntarily.’ A later decision in *Ritesh Sinha v. State of U.P.*,<sup>59</sup> refused to agree to the question which was raised as to whether the taking of voice test without one’s consent would violate his right to self- incrimination. In this same matter, Justice Ranjana Desai observed that, “the taking and retention of DNA samples which are equal to a physical evidence shouldn’t face any hurdles in the Indian legal scenario.”

### **Usage & Regulation of DNA in other Legal Systems**

Advancement in DNA technologies have reached to a level where no country can ignore its usefulness in the criminal investigation machinery. The advancement has reached to a level where a little genetic difference, as that in family members, can be noticed and each person can be singled out.

It will be not be an exaggeration to cite the ostentatious remarks made in the case of *The People v. George Wesley*,<sup>60</sup> Justice Joseph Harris, as he was then observed that: DNA Profiling is the utmost advance made in the “search for truth” since the emergence of cross-examination.

Most of the nations have in one way or the other incorporated DNA profiling in their criminal machinery. More than 64 countries around the world have an operational DNA database,<sup>61</sup> and structures to regulate it.

### **United States of America**

The US started using DNAs to solve cases in the late 1980s. The first use was done with the aid of a commercial test centre in 1986. One of the highlights in the US model is the induction of Innocence Project in 1992. The project has helped (to this date) in exonerating 367 people, including 130 of them who were wrongfully convicted of murder and other crimes they never committed.<sup>62</sup> The US, in 1994 enacted the DNA Identification Act<sup>63</sup> which furnished authority for FBI to establish a national DNA database called USA National (Federal) DNA Database which is managed through the Combined DNA Index System-

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<sup>59</sup>*Ritesh Sinha v. State of Uttar Pradesh*, (2013) 2 SCC357.

<sup>60</sup>198 3d 519 (Cal App, 1988).

<sup>61</sup>Global Summary, *DNA Policy Initiative*, 24th February, 2014, [http://dnapolicyinitiative.org/wiki/index.php?title=Global\\_summary](http://dnapolicyinitiative.org/wiki/index.php?title=Global_summary) (last accessed on 13/03/2021)

<sup>62</sup>DNA Exoneration’s in the United States, Innocence Project, 24<sup>th</sup>February, 2014, <https://www.innocenceproject.org/dna-exonerations-in-the-united-states/> (last accessed on 13/03/2021)

<sup>63</sup>42 U.S.C. § 14132.

CODIS Software (currently 2<sup>nd</sup> largest DNA Database in the World), which is being used by all the US states and it would connect all the 50 US states for swiftly resolving the crime by accessing the data centrally stored. In 2018, this database contained over 13.4 million profiles of offenders, 3.1 million profiles of persons arrested and 8.6 million other DNA profiles.<sup>64</sup>

The US Police Dept was given a freehand by the Supreme Court in the case of *Maryland v. King*<sup>65</sup> to collect randomly and in routine DNAs from person/s under arrest but not yet found guilty of the offence and also to put such data collected into the DNA database. The data collected in this matter was later on put to use in a case where King was arrested for threatening a group of persons with a weapon,<sup>66</sup> in this matter the previous swab taken to process his DNA profile was used to nab him.

One of the most important judgments after the *Maryland's* judgment has to be of *People of the State of New York v. Joseph Castro*,<sup>67</sup> where a three-fold projection test was settled by the Court to riposte the admissibility of DNA evidence in any matter listed before the court based on appreciation of the rationale held in *Frye test*, i.e., scientific admissibility, and if the technique is proficient enough in giving the desired consistency in results and whether the recognized scientific techniques are being used.

Later on, the Court of Appeals in 1989 gave two additional prongs for admissibility of evidence.<sup>68</sup> And, the weight each evidence carries was characterized in *Daubert v. Merrell Dow Pharmaceuticals*.<sup>69</sup>

## United Kingdom

The birth of DNA profiling/fingerprinting took place in the UK under the aegis of Dr. Alex Jeffreys from the University of Leicester. The first use was aimed at proving the family relation of Ghanaian boy with another person eligible to live in UK to the immigration authorities. The authorities accepted the result from the test which showed high probability of a mother- son relationship.<sup>70</sup>

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<sup>64</sup>CODIS - NDIS Statistics, Fed. Bureau of Investigation, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics> (last accessed on 13/03/2021).

<sup>65</sup>569 U.S. 435, 465-66 (2013).

<sup>66</sup>Id. at 440.

<sup>67</sup>143 Misc. 2d 276 (1989).

<sup>68</sup>USA v. Matthew Sylvester, 918 F2d 56.

<sup>69</sup>Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579 (1993).

<sup>70</sup>K. F. Kelly, J. J. Rankin & R.C. Wink, *Methods and Applications of DNA Fingerprinting: A Guide for the Non-Scientist*, 16 CRIM. L. REV. 105 (1987).

The Colin Pitchfork case, where Dr. Alex Jeffreys performed the first DNA fingerprinting for a criminal matter was a remarkable occurrence for the development as well as veracity of DNA testing. Here the accused was a suspect for double rape and murder in and around the same town. Accused confessed to committing one of the crimes but not to the other, and the investigative authorities were hell bent upon making him agree to the other one too and if it was not for the DNA tests exonerating him from the second matter, he would have been found guilty for that also.<sup>71</sup>

UK launched its “UK National DNA Database” also called “UK National Criminal Intelligence DNA Database” in 1995.<sup>72</sup> The power to establish such a database was given under the Criminal Justice and Public Order Act, 1994. The database is one of the largest databases in the world whereby more than 20,000 DNA tests being performed every year.<sup>73</sup> Before the passing of Protection of Freedoms Act in 2012, UK NDNAD had absolute powers to retain a DNA profile, and it consisted more than 0.45 million unknown DNA profiles accumulated from the crime scenes.<sup>74</sup>

### Other nations

The Registration of Criminal Act, 1985<sup>75</sup> (ROCA) in Singapore provides for the registration of criminals, with the first use of DNA was reported in 1990. An Amendment via Bill No. 43 of 2002 established a DNA database of offenders.

China, in 1989, was amongst the foremost nations in the South Asian region to use DNA in the criminal investigation and justice system as well as establishing a DNA Bank in 2004. China’s databank is the largest in the world with over 53 million profiles and a plan to put all its citizens on the database.<sup>76</sup>

Hong Kong has been using DNAs and the profiling apparatus from 1992. The Dangerous Drugs, Independent Commission Against Corruption and Police

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<sup>71</sup> *Supra* note 6, Id.

<sup>72</sup> Aaron Opoku Amankwaa, *The Effectiveness of the UK National DNA Database*, 1 FORENSIC SCI. INT.: SYNERGY, 45- 55 (2019).

<sup>73</sup> Avi Lasarow, *DNA Breaks Down Barriers in the Court Room*, (2021), <http://iww.elearn-university.org/MedicineiScience/48524.php>. (last accessed on 13/03/2021)

<sup>74</sup> UK Home Office, National DNA Databank Strategy Board Annual Report 2013-14, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/387581/NationalDNAdatabase201314.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/387581/NationalDNAdatabase201314.pdf) (last accessed on 13/03/2021)

<sup>75</sup> *Supra* note 5, Id.

<sup>76</sup> Wenxin Qianwei, *China Snares Innocent and Guilty Alike to Build World’s Biggest DNA Database*, WSJ (2017), <https://www.wsj.com/articles/china-snares-innocent-and-guilty-alike-to-build-worlds-biggest-dna-database-1514310353>. (last accessed on 13/03/2021)

Forces Act, 1992 was amended by Act- No. 68 of 2000, the Amendment provided authority to the establish a DNA profiling database, which was established in 2001.

Although South Africa has been using and conducting DNA tests in criminal investigation from 1991 and has a DNA databank since 1997, the legislation was promulgated as late as in 2013, the South African Criminal Law Forensic Procedures Amendment Act No. 37. The Act gave legality to the DNA database which was already in existence. The Act also gives the autonomous power to include a profile retrospectively for an action that took place in the past, i.e., before the inception of 2013's amendment.

### **The Privacy Alarm**

Taking India's perspective on the issue of privacy, lot of incidents took place all over the globe which made us (Indians) ponder, if the data is protected? Incidents followed and the Government formulated the Sri Krishna Committee for drafting a data protection bill which will be in consonance to GDPR regime in Europe. If and when implemented, the DNA profiling under the DNA Act will reveal one's and his/ her family's sensitive information (for example, one's predilection to disease, ancestry or parenthood) which could potentially be misused if not handled and protected properly. The power as per the DNA Bill to collect DNA samples from individuals, either forcefully or non- consensually constitutes a possible threat to one's bodily integrity.<sup>77</sup>

People are in a better position now than before the Cambridge Analytica Scandal took place. People witnessed as to how their personal information was stored without their consent, being sold and treated by the data mining companies. People are better equipped to comprehend and appreciate the fact that their DNA profiles too contain vital data and just how this data can be used in a detrimental manner by data fiduciaries.

Recently, Government of Andhra tied up with a forensic company in order to collect and make a DNA registry consisting 50 lakh people.<sup>78</sup> Studying from the practices of making such a database from other nations around the globe, one can deduce that the task is not a laid-back one. In India, as

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<sup>77</sup>Robin Williams and Paul Johnson, *Inclusiveness, Effectiveness and Intrusiveness: Issues in the Developing Uses of DNA Profiling in Support of Criminal Investigations*, 33 (3) J. LAW, MED. & ETHICS 545 (2005).

<sup>78</sup>Payel Majumdar Upreti, *What the DNA Profiling Bill means for your Data Privacy*, THE HINDU BUSINESS LINE, 2<sup>nd</sup>August, 2019, <https://www.thehindubusinessline.com/blink/know/what-the-dna-profiling-bill-means-for-your-data-privacy/article28793951.ece#> (last accessed on 13/03/2021)

there is an absenteeism of law on this issue, without any regulating force, the private companies have been collecting DNA samples for making genealogy/ancestry tree.

In the USA, particular communities have been targeted and cordoned off to give their DNA samples, USA has been indifferent to the coloured people and the data from the Innocence Project in USA corroborates to this phenomenon. It has been revealed that the project has helped 225 African American in getting themselves exonerated of the crimes they did not commit.<sup>79</sup> Even in the United Kingdom, close to 18 lakh profiles from UK's DNA database were deleted as per the requirement under the Protection of Freedoms Act, 2012. In a data from 2007, it was reported that almost 3/4<sup>th</sup> of young black citizens of the UK were on such a database.<sup>80</sup> Usage of DNA Profiles which is well off the mark than what it is supposed to can give rise to discrimination as witnessed in the US and UK. The biological profile can give birth to a 'substandard' class of people who are genetically marginal when compared to those who have healthy genes. This inferior class of people then will be discriminated in the case of giving employment, for adoption, marriage etc.

The police in certain cases have also followed a suspect and collected their data from a cup of. This abandoned DNA has been challenged in a lot of countries as being unlawful and unethical,<sup>81</sup> but to the utter disappointment of the aggrieved, no inroads have been made to enforce the civil liberty. In Australia, the police can legally gather a person's abandoned DNA data without his/her consent or any impending Court orders. They can do so by collecting all the items which such a data subject has touched like a glass, bottle, etc.<sup>82</sup>

### **Retention of DNA: An Unfettered Power**

In US, as it happens in the CODIS, these samples are retained for solving subsequent cases, quality control as well as for research purposes.<sup>83</sup> Nevertheless, the retention of information which is a very delicate process,

<sup>79</sup>*Supra* note 62, Id.

<sup>80</sup>Sujata Byravan, *The Problems with a DNA Registry*, THE HINDU, 8<sup>th</sup>May, 2018, <https://www.thehindu.com/opinion/op-ed/the-problems-with-a-dna-registry/article23805145.ece> (last accessed on 13/03/2021)

<sup>81</sup>Id.

<sup>82</sup>Jeremy Gans, *DNA Identification, Privacy and the Irrelevance of Australian Law*, 3 (9) PRI. L. BULLETIN 110 (2007).

<sup>83</sup>RE Gaensslen, *Should Biological Evidence or DNA be Retained by Forensic Science Laboratories After Profiling? No, Except Under Narrow Legislatively Stipulated Conditions*, 34 J. LAW, MED. & ETHICS 375 (2006).



imminent threat to the privacy of an individual as well as the society and on top of that the unfettered power given to the police officials to collect the data from the person ‘willingly/unwillingly’ adds upon the miseries of an ordinary individual.

In UK, questions were raised in *S and Marper v. the UK*,<sup>84</sup> as to the retention of DNA profile and whether it breached their right to privacy? The House of Lord through Lord Steyn pronounced that just the retention of such an information cannot be the breach of privacy. The matter was moved to the European Court of Human Rights (ECHR), where the ruling stated the DNA profiles of persons who are only suspects cannot be stored indefinitely, doing so would be indiscriminate and blanket usage of authority and in contravention to the principles which enshrine one’s right to privacy. The 2012’s PoFA and the Anti-Social Behaviour, Crime and Policing Act, 2014 was brought in so as to comply with the ECHR ruling and since then around 7.7 million profiles have been destroyed and 1.7 million of them are deleted.

Prior to that the law in UK, after certain amendments to the S. 64(3A) of Police and Criminal Evidence Act, 1984 (PACE Act) and S. 57 of the Criminal Justice and Public Order Act, 1994 (CJPO Act) allowed the authorities to retain DNA samples for indefinite period even after the investigation is over and the person is convicted. Furthermore, the surveillance state got a shot in the arm to its powers when S. 82(2) of Criminal Justice & Police Act 2001 modified S. 57 of CJPO Act, permitting the samples to be reserved for usage in future cases. This data-bank practice of UK, if followed by other nations can give birth to an unprecedented surveillance state and a powerful instrument to intrude citizen’s privacy. If we take a cursory look at the implications of these laws (PACE Act, CJPO & CJP Act) in the UK – the police are actually never required to destroy any legitimately collected sample!

### **Balance between National Interest/Security and Human Rights and Privacy**

Both the aspects of national interest as well as human rights are quintessential for a country to progress. The society in toto is interested in endorsing both the aspects, as they being are mutually important, but with the turn of century, new technological developments made the society vary of its privacy and the resulting peaceful life.

The collection, storage and use of sensitive personal data always raises socio-

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<sup>84</sup>*S and Marper v. United Kingdom*, (European Court of Human Rights, Grand Chamber, Application Nos 30562/04 and 30566/04,) 4<sup>th</sup> December 2008.

ethical/ legal issues,<sup>85</sup> therefore in whatever way, any of the Governments around the globe plans to regulate the DNA regime, it will be a strenuous task.

### Concluding Remarks

There is no doubt that DNA profiling has been a boon to the criminal administrative system and justice delivery system, revolutionising the whole justice delivery system and making it more efficient, effective and accurate than ever<sup>86</sup> like automated comparisons of profiles with the help of technological advances in computerized storage. However, India's social fabric and the peculiar social conditions assert this test in contradiction of the self-respect as well as the self-esteem of a child who if declared as a bastard will have to bear the brunt for the rest of his life and also his mother who will be publicly shamed.<sup>87</sup> Therefore, in our society before ordering such a test, careful examination has to be made as the Court has endeavoured to not put the legitimacy of the child in peril.

For the controversy surrounding the Bill, it pertains to the breach of privacy and the protection of data stored in such banks. It will be meaningful to note that back in 1890, Charles Warren and Louis Brandeis opined that, privacy, or the right to be let alone, was an interest that man should be able to avow unswervingly and not derivatively from his labors to guard other interests.<sup>88</sup> There can be no dispute as to why not to provide/give the right to privacy in its absolute term, but then if everyone started using the shield of privacy, then it will be impossible to get conclusive evidence.

The Government of India has acted arbitrarily in applying the DNA test to various situations with some limitations. For example, it has applied it for solving murder, rape cases as well as paternity suits, but has declined to use it in one of the major uses, i.e. in resolving immigration cases. In the recent NRC issue, the government was not willing to accept DNA evidence from persons who have been excluded from the citizenship list but whose family has been included.<sup>89</sup>

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<sup>85</sup>Mairi Levitt, *Forensic Databases: Benefits and Ethical and Social Costs*, 83 BRIT. MED. BULLETIN 235 (2007).

<sup>86</sup>Leigh M Harlan, *When Privacy Fails: Invoking a Property Paradigm to Mandate the Destruction of DNA Samples*, 54 DUKE L. J. 179 (2004-05).

<sup>87</sup>Goutam Kundu v. State of West Bengal, AIR 1993 SC 2295.

<sup>88</sup>Charles Warren, *The Right to Privacy*, 4 HAR. L.R. 193 (1890).

<sup>89</sup>Arunabh Saikia, *How DNA went Missing from the NRC's Blueprint for Proving Indian Citizenship*, SCROLL, 22<sup>nd</sup> July, 2019, <https://scroll.in/article/931004/how-dna-went-missing-from-the-nrcs-blueprint-for-proving-indian-citizenship> (last accessed on 13/03/2021)

Dr. Arghya Sengupta, Founder of Vidhi Centre and member of the Sri Krishna Committee, while addressing students in NALSAR, Hyderabad put into view that, individual is at the centre of data universe! But, that's not true. In today's time the company is at the centrifugal force who collects and stores all the data.<sup>90</sup> Since tons and tons of information is available to gather and process in one's DNAs, it is of imminent importance that the Government appreciates including greater protective measures in this DNA Bill so that the information is not misused.

There are two diverging interests existing and to keep a check on both of them, maybe it would be apt to have an International treaty/legislation and/or any such mechanism to keep a check on the new challenges, but meanwhile the 64 countries who have a DNA database can form a consensus on this issue. The Government of India should come up with relevant and necessary change to the present DNA Technology (Use & Application) Regulation Bill, 2019. Apart from the privacy issues which surround this Bill. The Bill is in consonance with all the interpretations from the court in a catena of cases as well as in consonance with the CrPC Amendment of 2005 which allowed taking DNA samples in specific cases.

It will not be wrong to say that the conclusions drawn by Sherlock Holmes about one's appearance by looking at the footprint<sup>91</sup> has become a reality after the onset of technological advances in forensic science making other techniques (like fingerprinting, blood splatter analysis, etc) look old fashioned,<sup>92</sup> thereby heralding in the DNA Technology.

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<sup>90</sup> Arghya Sengupta, *Speech on the Data Protection Report 2018*, YOUTUBE, <https://www.youtube.com/watch?v=eie1V2HfMKc> (last accessed on 13/03/2021).

<sup>91</sup> Forensic Outreach, *Five Ways Sherlock Holmes Inspired Forensic Investigation*, (2014), <https://forensicoutreach.com/library/5-ways-sherlock-holmes-inspired-forensic-investigation/> (last accessed on 13/03/2021).

<sup>92</sup> Samuel D. Jr. Hodge, *Current Controversies in the Use of DNA in Forensic Investigations*, 48 U. BALT. L. REV. 39 (2018).