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FORENSIC BODILY EVIDENCE AND THE RIGHTS OF THE ACCUSED: A CRITICAL STUDY OF MEDICAL EXAMINATION, DNA SAMPLING AND EVIDENTIARY SAFEGUARDS UNDER THE BHARATIYA NAGARIK SURAKSHA SANHITA, 2023 AND THE BHARATIYA SAKSHYA ADHINIYAM, 2023

AUHTOR - ANAMIKA KUMARI, STUDENT AT VIVEKANANDA GLOBAL UNIVERSITY, JAIPUR

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1. ABSTRACT AND KEYWORDS

Abstract. Bodily evidence reaches the Indian criminal trial through two 2023 enactments: the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS), which governs how samples and specimens are compelled and collected, and the Bharatiya Sakshya Adhiniyam, 2023 (BSA), which governs how forensic reports are proved and weighed.[308] The paper asks whether the reform has shifted the balance between investigative need and the accused's rights under Articles 20(3) and 21. It reaches four findings. First, the BNSS carries the Code of Criminal Procedure, 1973 (CrPC) examination scheme forward with modest change, but it drops the sub-inspector rank threshold in sections 51 and 52, and section 349 lets a Magistrate order finger impressions and voice samples from a person never arrested.[309] Second, the constitutional position rests on *State of Bombay v. Kathi Kalu Oghad*, *Selvi v. State of Karnataka* and *K.S. Puttaswamy v. Union of India*, applied by analogy because the 2023 text is silent on consent, refusal and later use of samples; *Rahul Agarwal v. State of West Bengal* and *R. Rajendran v. Kamar Nisha* (both 2025) add rulings on voice samples from witnesses and on a direct nexus for compelled DNA testing.[310] Third, neither enactment states a chain-of-custody rule, a reliability standard for DNA or voice evidence, or a defence right to raw data and re-testing, and *Kattavellai @ Devakar v. State of Tamil Nadu* (2025) fills only part of that gap.[311] Fourth, the Criminal Procedure (Identification) Act, 2022 runs a parallel regime with seventy-five-year retention.[312] The danger to the accused lies less in compelled sampling than in the weakly regulated life of the sample afterwards.

Keywords: bodily evidence; DNA profiling; Article 20(3); chain of custody; Bharatiya Nagarik Suraksha Sanhita; Bharatiya Sakshya Adhiniyam; wrongful conviction

[308] Bharatiya Nagarik Suraksha Sanhita, 2023, No. 46, Acts of Parliament, 2023 (India) [hereinafter BNSS] (in force from July 1, 2024 by Ministry of Home Affairs notification of Feb. 23, 2024); Bharatiya Sakshya Adhiniyam, 2023, No. 47, Acts of Parliament, 2023 (India) [hereinafter BSA] (in force from July 1, 2024 by Ministry of Home Affairs notification of Feb. 23, 2024).

[309] BNSS, *supra* note 1, §§ 51, 52, 349; Code of Criminal Procedure, 1973, §§ 53, 53A, 311A, No. 2, Acts of Parliament, 1974 (India) [hereinafter CrPC].

[310] *State of Bombay v. Kathi Kalu Oghad*, A.I.R. 1961 S.C. 1808 (India); *Selvi v. State of Karnataka*, (2010) 7 S.C.C. 263 (India); *K.S. Puttaswamy v. Union of India*, (2017) 10 S.C.C. 1 (India); *Rahul Agarwal v. State of West Bengal*, 2025 INSC 1223, Criminal Appeal arising out of SLP (Crl.) No. 5518 of 2025 (India Oct. 13, 2025) (Gavai, C.J.I. & Vinod Chandran, J.); *R. Rajendran v. Kamar Nisha*, 2025 INSC 1304, Criminal Appeal No. 1013 of 2021 (India Nov. 10, 2025) (Mishra & Pancholi, JJ.).

[311] *Kattavellai @ Devakar v. State of Tamil Nadu*, 2025 INSC 845 (India July 15, 2025) (Nath, Karol & Mehta, JJ.).

[312] Criminal Procedure (Identification) Act, 2022, §§ 3–6, No. 11, Acts of Parliament, 2022 (India) [hereinafter 2022 Act] (in force from Aug. 4, 2022 by notification S.O. 3653(E) of Aug. 3, 2022).

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2. INTRODUCTION

2.1 Bodily evidence and the fair trial

A swab taken from an arrested man, sealed in an envelope and carried to a laboratory weeks later may decide whether he is acquitted or sentenced to death. Whether he could refuse it, how it travelled and who may test the laboratory's reading of it are answered by rules scattered across the Constitution, two 2023 enactments, a statute of 2022 and Supreme Court directions.

Bodily evidence sits where two commitments meet. The investigating agency needs physical material that only the body can supply, while Article 20(3) provides that no person accused of an offence shall be compelled to be a witness against himself.[313] The Supreme Court reconciled the two in 1961 by separating physical material from testimonial communication,[314] and in 2010 applied the same line to exclude involuntary narcoanalysis, polygraph and brain-mapping.[315]

2.2 From the 1973 and 1872 codes to the 2023 Sanhitas

The BNSS and the BSA replaced the CrPC and the Indian Evidence Act, 1872 (IEA) from July 1, 2024.[316] Proceedings pending on that date continue under the old law, so an investigation pending on June 30, 2024 is governed by different provisions from one begun after it.[317] On bodily evidence the result is continuity with pockets of expansion: re-enacted examination powers with a lower police threshold, a wider specimen power, statutory scene visits, and electronic-record rules that ignore biological material.[318]

2.3 Scope and method

Direct authority on the 2023 text is thin, though courts in 2025 and 2026 have begun to address voice sampling, DNA nexus, hash-value certificates and DNA custody.[319] Where none exists, precedent under the CrPC and the IEA is applied by analogy, and each such step is marked. The analysis runs in three layers: collection (the BNSS and the Criminal Procedure (Identification) Act, 2022, the "2022 Act"), proof (the BSA) and constitutional limits (Articles 20(3) and 21), which no statute can alter.

3. OBJECTIVES OF THE PAPER

The paper pursues four objectives.

- To set out what the BNSS provides on medical examination, specimen collection and scene forensics, what it carried over from the CrPC, and where the 2022 Act overlaps.
- To test those provisions against Article 20(3) and the privacy and proportionality standards of Article 21, marking where precedent applies by analogy.

[313] India Const. art. 20, cl. 3.
[314] *Kathi Kalu Oghad*, *supra* note 3.
[315] *Selvi*, *supra* note 3
[316] BNSS, *supra* note 1, §§ 1(3), 531(1); BSA, *supra* note 1, §§ 1(3), 170(1); Indian Evidence Act, 1872, No. 1, Acts of Parliament, 1872 (India) [hereinafter IEA].
[317] BNSS, *supra* note 1, § 531(2)(a); BSA, *supra* note 1, § 170(2).
[318] BNSS, *supra* note 1, §§ 51–54, 176(3), 349; BSA, *supra* note 1, §§ 39, 61, 63.
[319] *Rahul Agarwal*, *supra* note 3; *R. Rajendran*, *supra* note 3; *Haseeb Ullah Khan v. State of Telangana*, Crl. Revision Case No. 524 of 2026, 2026 LiveLaw (Tel.) 113 (Telangana High Ct. July 8, 2026) (K. Sujana, J.); *Pune Bar Ass'n v. Union of India* (India May 22, 2026); *Kattavellai*, *supra* note 4.

- To examine how the BSA treats expert opinion, electronic proof and DNA reports, and to name the safeguards neither enactment supplies.
- To assess how those gaps, and the Supreme Court's partial directions, bear on the fair trial and wrongful-conviction risk.

4. RESEARCH QUESTIONS

- Does the BNSS expand or confine the State's power to compel bodily examination and samples compared with the CrPC, and how does the 2022 Act interact with it?
- On existing precedent under Articles 20(3) and 21, applied by analogy, which BNSS sampling powers survive constitutional scrutiny, and what do the 2023 provisions leave unsaid on consent, refusal and proportionality?
- Do the BSA and the BNSS supply enough safeguards on expert opinion, chain of custody and defence access to protect an accused against wrongful conviction on forensic evidence?

5. REASON FOR SELECTING THE TOPIC

The 2023 enactments are the first comprehensive rewriting of Indian criminal procedure and evidence since 1973 and 1872, and forensic investigation is where the change is most visible: scene visits by forensic experts under BNSS section 176(3), a wider specimen power under section 349, and a certificate regime for electronic records under BSA section 63.[320] Capital appeals show the stakes. In *Rahul v. State of Delhi*, *Irfan alias Bhayu Mevati v. State of Madhya Pradesh* and *Kattavellai*, lapses in handling samples or testing reports unsettled death sentences years after trial, and *Kattavellai* produced custody directions that the new statutes omit.[321] Testing the new text against settled constitutional standards, and naming where it is silent, is useful while the case law forms.

6. COMPULSORY BODILY EXAMINATION AND SAMPLING UNDER THE BNSS, 2023: POWERS, PRECONDITIONS AND CONTINUITY FROM THE CrPC, 1973

6.1 Examination of the accused and of the arrested person

Section 51(1) of the BNSS lets a registered medical practitioner, acting at the request of "any police officer," examine an arrested person where there are reasonable grounds for believing that the examination will afford evidence of an offence, using "such force as is reasonably necessary for that purpose."[322] CrPC section 53(1) confined the request to an officer not below sub-inspector rank; section 51(1) drops that threshold, as does section 52, successor of section 53A, for persons arrested for rape or attempted rape.[323] New section 51(3) sends the report to the investigating officer without delay.[324] The 2005 Explanation survives across sections 51 to 53: "examination" covers blood, semen, swabs, hair samples and nail clippings, taken by modern and scientific techniques including DNA profiling, "and

[320] BNSS, *supra* note 1, §§ 176(3), 349; BSA, *supra* note 1, § 63.
[321] *Rahul v. State of Delhi, Ministry of Home Affairs*, (2023) 1 S.C.C. 83 (India Nov. 7, 2022) (Lalit, C.J.I., Bhat & Trivedi, JJ.); *Irfan alias Bhayu Mevati v. State of Madhya Pradesh*, 2025 INSC 150, Criminal Appeals Nos. 1667 and 1668 of 2021 (India Jan. 16, 2025) (Nath, Karol & Mehta, JJ.); *Kattavellai*, *supra* note 4.
[322] BNSS, *supra* note 1, § 51(1).
[323] CrPC, *supra* note 2, §§ 53(1), 53A; BNSS, *supra* note 1, § 52; Press Information Bureau, Gov't of India, Comparative Table of the Code of Criminal Procedure, 1973 and the Bharatiya Nagarik Suraksha Sanhita, 2023 (May 2024)
[324] BNSS, *supra* note 1, § 51(3).

such other tests which the registered medical practitioner thinks necessary in a particular case," with only the definition of registered medical practitioner updated.[325]

Section 53, successor of CrPC section 54, requires every arrested person to be examined by a medical officer soon after arrest, with a copy of the report for the person or a nominee, and adds a proviso allowing one further examination.[326] The 1973 section 54 was request-based, a Magistrate directing examination only if the arrested person asked; the mandatory model entered in 2009, echoing the safeguards in *D.K. Basu v. State of West Bengal*.[327] By contrast, a rape complainant's examination under section 184, successor of CrPC section 164A, requires her consent or that of a person competent to give it.[328] Identification stays with the court under section 54, successor of CrPC section 54A, with audio-video recording replacing "videographed" where the identifying person has a disability.[329]

6.2 Specimen signatures, finger impressions and voice samples

CrPC section 311A, inserted in 2005, let a Magistrate of the first class direct any person to give specimen signatures or handwriting, but a proviso barred any order unless the person had at some time been arrested in the matter.[330] Voice samples had no express statutory basis until *Ritesh Sinha v. State of Uttar Pradesh*, where a three-judge bench conceded to Judicial Magistrates the power to order them, by interpretation and with Article 142, until Parliament legislated.[331]

BNSS section 349 is that legislation. It names finger impressions and voice samples beside signatures and handwriting, keeps the arrest condition in its first proviso, and adds a second allowing the Magistrate, "for the reasons to be recorded in writing," to order any person to give a specimen or sample without arrest.[332] That proviso is the largest textual change in the sampling scheme: it reaches witnesses and suspects who may never become accused, and it does not say what the recorded reasons must establish. A Delhi High Court Division Bench similarly read the section 311A proviso as directory in December 2024, so that a person appearing voluntarily need not be arrested first.[333] The savings clause limits the new provision: in *Subhash Chandra Balasaria v. State of West Bengal* (March 2025) the Calcutta High Court held that section 349 cannot be invoked where the investigation began under the CrPC.[334]

6.3 Forensic scene visits and evidence collection

BNSS section 176(3) has no CrPC equivalent. On information of an offence punishable with imprisonment of seven years or more, the officer in charge of a police station must cause a forensic expert to visit the scene to collect evidence and cause the process to be videographed on a mobile phone or other electronic device.[335] The duty applies from a date each State notifies within five years,

[325] BNSS, *supra* note 1, § 51, Explanation; CrPC, *supra* note 2, § 53, Explanation (substituted by the Code of Criminal Procedure (Amendment) Act, 2005, § 8, No. 25, Acts of Parliament, 2005 (India), in force June 23, 2006).
[326] BNSS, *supra* note 1, § 53; CrPC, *supra* note 2, § 54.
[327] CrPC, *supra* note 2, § 54 (substituted by the Code of Criminal Procedure (Amendment) Act, 2008, § 8, No. 5, Acts of Parliament, 2009 (India), in force Dec. 31, 2009); *D.K. Basu v. State of West Bengal*, (1997) 1 S.C.C. 416 (India).
[328] BNSS, *supra* note 1, § 184(1), (4), (7); CrPC, *supra* note 2, § 164A.
[329] BNSS, *supra* note 1, § 54; CrPC, *supra* note 2, § 54A (inserted by Act No. 25 of 2005, § 11); PIB Comparison, *supra* note 16.
[330] CrPC, *supra* note 2, § 311A.
[331] *Ritesh Sinha v. State of Uttar Pradesh*, (2019) 8 S.C.C. 1 (India).
[332] BNSS, *supra* note 1, § 349.
[333] *Court on its Own Motion v. State*, 2024:DHC:9930-DB (Delhi High Ct. Dec. 2024) (Prathiba M. Singh & Amit Sharma, JJ.).
[334] *Subhash Chandra Balasaria v. State of West Bengal* (Calcutta High Ct. Mar. 2025) (Suvra Ghosh, J.); BNSS, *supra* note 1, § 531(2)(a).
[335] BNSS, *supra* note 1, § 176(3).

and the section states no consequence for omission. Courts have long held that a defective investigation does not by itself require acquittal,[336] yet in *Suresh v. State of Kerala* the Kerala High Court set aside a murder conviction marked by investigative lapses and directed use of the e-Sakshya application for recordings under BNSS sections 105 and 176(3).[337]

6.4 The Criminal Procedure (Identification) Act, 2022

The 2022 Act replaced the Identification of Prisoners Act, 1920. Section 2(1)(b) defines "measurements" to include finger, palm and foot impressions, iris and retina scans, biological samples and their analysis, behavioural attributes including signatures and handwriting, and any examination under CrPC sections 53 or 53A. Voice is not named, though "behavioural attributes" could arguably reach it.[338] Section 3 reaches convicts and persons arrested or preventively detained, but a person arrested for an offence not committed against a woman or child and not punishable with at least seven years' imprisonment "may not be obliged" to allow biological samples; convicts receive no such exemption.[339]

Section 5 overlaps sharply with BNSS section 349. It lets a Magistrate direct "any person" to give measurements, with no arrest condition and no recorded-reasons requirement in its text, so on its face it reaches biological samples that section 349 does not name and the section 3 proviso does not shield.[340] Section 6 permits measurements despite resistance and deems refusal an offence under Indian Penal Code section 186, now Bharatiya Nyaya Sanhita section 221.[341] Records are kept for seventy-five years, with destruction the default only for a person without a prior imprisonable conviction who is finally released, discharged or acquitted.[342] The Act still cites the CrPC and the Penal Code, presumably read through section 8 of the General Clauses Act, 1897; no decision has tested that.[343]

6.5 Consent, force and the status of "such other tests"

Neither section 51, which authorises force, nor section 349, which works by magisterial order, makes consent a condition. *Selvi* read "such other tests" in the CrPC Explanation *ejusdem generis* with the physical substances listed before it, so narcoanalysis, polygraph and brain-mapping fall outside it and cannot be administered involuntarily without breaching Articles 20(3) and 21; voluntary administration needs safeguards.[344] BNSS section 51 repeats the phrase unchanged, and re-enactment after thirteen years of judicial construction supports, without compelling, reading it as *Selvi* did. *Selvi* therefore applies by analogy, and no reported decision applying its exclusion to section 51 has come to light.[345]

In *Haseeb Ullah Khan v. State of Telangana* (July 2026) the Telangana High Court held *Selvi* inapplicable to DNA profiling under section 51, and in *R. Rajendran* the Supreme Court set aside an order compelling DNA testing in a cheating and harassment case, holding that CrPC sections 53 and 53A permit

[336] *C. Muniappan v. State of Tamil Nadu*, (2010) 9 S.C.C. 567 (India).
[337] *Suresh v. State of Kerala*, Crl. A. No. 602 of 2019, 2025 LiveLaw (Ker.) 456 (Kerala High Ct. July 2025) (Raja Vijayaraghavan V. & K.V. Jayakumar, JJ.); BNSS, *supra* note 1, §§ 105, 176(3).
[338] 2022 Act, *supra* note 5, § 2(1)(b).
[339] *Id.* § 3.
[340] *Id.* § 5.
[341] 2022 Act, *supra* note 5, § 6; Indian Penal Code, 1860, § 186; Bharatiya Nyaya Sanhita, 2023, § 221, No. 45, Acts of Parliament, 2023 (India) [hereinafter BNS].
[342] 2022 Act, *supra* note 5, § 4(2).
[343] General Clauses Act, 1897, § 8.
[344] *Selvi*, *supra* note 3, ¶ 263.
[345] BNSS, *supra* note 1, § 51, Explanation.

examination only where it bears a direct nexus with the offence. Sections 51 and 52 keep the same reasonable-grounds wording, so that requirement applies by analogy.[346]

In sum, the examination powers, force clause, Explanation, female-practitioner rule and mandatory examination on arrest carried over from the CrPC. The rank threshold, report forwarding, the further-examination proviso, section 349's additions and the scene-visit duty are new.[347]

7. BODILY EVIDENCE AND ARTICLE 20(3): THE TESTIMONIAL DIVIDE AFTER KATHI KALU OGHAD AND SELVI, APPLIED BY ANALOGY TO THE BNSS SAMPLING PROVISIONS

7.1 The testimonial line

Article 20(3) forbids compelling a person accused of an offence to be a witness against himself.[348] *State of Bombay v. Kathi Kalu Oghad*, decided by eleven judges, held that compelling specimen handwriting, signatures, or thumb, palm, finger or foot impressions is not testimonial compulsion, because the material is compared for physical identity and conveys nothing from the accused's own knowledge; it narrowed the broad reading of "to be a witness" in *M.P. Sharma v. Satish Chandra*.[349] *Nandini Satpathy v. P.L. Dani* extended the privilege to police interrogation and psychological pressure,[350] and *Selvi* applied the personal-knowledge test to techniques that draw information out of the subject's mind, holding them testimonial.[351] The line asks what the evidence demands from the accused, not what the State can find in him.

7.2 DNA samples and profiles

A compelled sample of blood, saliva, semen or hair is physical material, and the profile drawn from it comes from laboratory analysis, not from any communication by the accused. On the reasoning of *Kathi Kalu Oghad*, collection under BNSS section 51 therefore falls outside Article 20(3). That is application by analogy, since *Kathi Kalu Oghad* did not consider DNA and the BNSS only keeps DNA profiling in an Explanation that *Selvi* read as describing techniques yielding physical evidence.[352]

7.3 Finger impressions, voice samples and persons never arrested

Finger impressions are named in *Kathi Kalu Oghad* itself, so section 349 rests on direct authority for that item.[353] *Ritesh Sinha* held a voice sample to be physical evidence on the same reasoning, because it serves to compare the physical attributes of the voice and does not convey the content of speech.[354] In *Rahul Agarwal* (October 13, 2025) the Supreme Court restored a Magistrate's order for the voice sample of a person alleged to have threatened a witness. The Court noted that *Ritesh Sinha* speaks of "a person," that a sample incriminates only when compared with other material, and that section 349 now confers the power expressly, but left open whether the CrPC or the BNSS governed because either route gave the same result.[355]

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[346] *Haseeb Ullah Khan*, *supra* note 12; *R. Rajendran*, *supra* note 3, ¶¶ 54–59.
[347] BNSS, *supra* note 1, §§ 51–54, 176(3), 349; PIB Comparison, *supra* note 16.
[348] India Const. art. 20, cl. 3.
[349] *Kathi Kalu Oghad*, *supra* note 3; *M.P. Sharma v. Satish Chandra*, A.I.R. 1954 S.C. 300 (India).
[350] *Nandini Satpathy v. P.L. Dani*, (1978) 2 S.C.C. 424 (India).
[351] *Selvi*, *supra* note 3.
[352] *Kathi Kalu Oghad*, *supra* note 3; *Selvi*, *supra* note 3; BNSS, *supra* note 1, § 51, Explanation.
[353] *Kathi Kalu Oghad*, *supra* note 3.
[354] *Ritesh Sinha*, *supra* note 24.
[355] *Rahul Agarwal*, *supra* note 3.

Section 349 now supplies the statutory footing that *Ritesh Sinha* did without, but a substantive objection remains. Speech is volitional, and a sample may require the subject to read the words of a questioned recording. Handwriting is also volitional and was held non-testimonial, so an objector must show that voice stands closer to *Selvi*'s mental-process cases than to handwriting. Neither section 349 nor *Rahul Agarwal* regulates how the sample is taken or what text may be read.

7.4 Privacy, nexus and proportionality

Puttaswamy, a nine-judge decision, recognised privacy as a fundamental right under Article 21 and required State intrusion to satisfy legality, a legitimate aim and proportionality.[356] It did not concern criminal sampling, so its use here is by analogy. *Ritesh Sinha* met the privacy objection by observing that privacy yields to compelling public interest, an approach criticised as bypassing proportionality.[357] *R. Rajendran* applied the *Puttaswamy* test directly to a compelled DNA direction in an investigation, called forced testing a grave intrusion on privacy and personal liberty, and required a direct and demonstrable nexus with the offence.[358] Paragraph 54 invokes Articles 20(3) and 21 together without saying why Article 20(3) is engaged, which sits uneasily with *Kathi Kalu Oghad*; privacy is the operative ground.[359]

Against that standard, BNSS section 51 has statutory authority and a legitimate aim where nexus exists, but thin safeguards: any police officer may set an examination in motion without prior judicial scrutiny, and nothing in the text limits later use or retention.[360] Section 349 fares better because a Magistrate's order interposes scrutiny, though the recorded-reasons proviso is undefined.[361] The 2022 Act is the most exposed, with collection by category of arrest under section 3, orders without arrest or recorded reasons under section 5, and seventy-five-year retention.[362] No general statute regulates DNA data: the DNA Technology (Use and Application) Regulation Bill, 2019 was withdrawn in July 2023, reportedly because the 2022 Act covered most of it.[363]

7.5 Where the 2023 text is silent

Section 51 states no consequence for refusal beyond force and section 349 none, though *Haseeb Ullah Khan* shows a court supplying one through bail cancellation; only the 2022 Act attaches an express sanction.[364] Whether refusal supports an adverse inference at a criminal trial is left to the general presumptions in BSA section 119, illustrations (g) and (h), successor of IEA section 114.[365] *Sharda v. Dharmpal* and *Dipanwita Roy v. Ronobroto Roy* drew such inferences in matrimonial disputes, but only

[356] *Puttaswamy*, *supra* note 3.
[357] *Ritesh Sinha*, *supra* note 24; Shraddha Chaudhary, *The Compelling Public Interest in Testimonial Compulsion: A Critique of the Decision of the Supreme Court of India in* Ritesh Sinha v. State of Uttar Pradesh, 20(2) Oxford Univ. Commw. L.J. 342 (2020).
[358] *R. Rajendran*, *supra* note 3, ¶¶ 46–54.
[359] *R. Rajendran*, *supra* note 3, ¶ 54; *Inayath Ali v. State of Telangana*, (2024) 7 S.C.C. 822 (India).
[360] BNSS, *supra* note 1, § 51.
[361] *Id.* § 349.
[362] 2022 Act, *supra* note 5, §§ 3–5.
[363] DNA Technology (Use and Application) Regulation Bill, 2019 (introduced in the Lok Sabha July 8, 2019; withdrawn July 24, 2023); *Centre Withdraws DNA Technology Regulation Bill 2019 From Lok Sabha*, LiveLaw (July 25, 2023), https://livelaw.in/news-updates/centre-withdraws-dna-technology-bill-lok-sabha-233563 (last visited Nov. 3, 2026).
[364] BNSS, *supra* note 1, §§ 51, 349; *Haseeb Ullah Khan*, *supra* note 12; 2022 Act, *supra* note 5, § 6.
[365] BSA, *supra* note 1, § 119, illustrations (g) and (h); IEA, *supra* note 9, § 114.

after a lawful direction had been disobeyed, a point *R. Rajendran* took from *Aparna Ajinkya Firodia v. Ajinkya Arun Firodia*.[366]

On persons never arrested, Article 20(3) speaks of a person "accused of any offence." *Selvi*, following *Nandini Satpathy*, read CrPC section 161(2), now BNSS section 180(2), as protecting suspects and witnesses during investigation, and *Rahul Agarwal* said the rule against self-incrimination applies equally to a witness and an accused.[367] The Court did not decide whether Article 20(3) itself protects a person never arrested. Because physical and voice samples are non-testimonial, such a person's section 180(2) and Article 21 arguments do not defeat a section 349 order on present authority.

8. FORENSIC EVIDENCE UNDER THE BSA, 2023: EXPERT OPINION, CHAIN OF CUSTODY AND WRONGFUL-CONVICTION RISK UNDER ARTICLE 21

8.1 Expert opinion and the mode of receiving reports

BSA section 39(1) carries forward IEA section 45, making relevant the opinions of persons specially skilled in foreign law, science, art or, now, "any other field," and in identifying handwriting or finger impressions; section 39(2) absorbs IEA section 45A on the Examiner of Electronic Evidence.[368] Section 39 names neither DNA, voice, ballistic nor bite-mark evidence and has nothing like the inquiry into testing and error rates that *Daubert v. Merrell Dow Pharmaceuticals, Inc.* requires of United States courts.[369] *Kattavellai* treated DNA evidence as probative but dependable only if properly handled, so admissibility turns on the expert's qualification and the sample's integrity, not on a statutory reliability threshold.[370]

Reception is governed by the BNSS. Under section 329(1) and (2), successor of CrPC section 293, a report of a listed Government scientific expert may be used in evidence without examining its author unless the court summons him, and section 329(4)(g) now covers experts notified by a State Government as well as the Centre.[371] New section 336 lets a successor officer depose where a report's author is unavailable, and its first proviso says no scientific expert or medical officer shall be called unless a party disputes the report. That proviso may be confined to the successor setting, but section 329(1) alone lets a DNA report onto the record untested unless the defence acts.[372] In *Irfan* (January 2025) a three-judge bench in a capital appeal held that relying on a DNA report received under CrPC section 293 without summoning the experts occasioned a failure of justice; whether that reasoning reaches non-capital trials under sections 329 and 336 is unsettled.[373]

8.2 Electronic and certificate-based proof

BSA section 63, successor of IEA section 65B, makes admissibility of electronic output depend on a certificate, as *Arjun Panditrao Khotkar* held of section 65B.[374] Under section 63(4) the certificate follows a two-part Schedule: Part A, completed by the party, discloses the record's hash value, and Part B is

[366] *Sharda v. Dharmpal*, (2003) 4 S.C.C. 493, ¶ 81 (India); *Dipanwita Roy v. Ronobroto Roy*, (2015) 1 S.C.C. 365 (India); *R. Rajendran*, *supra* note 3, ¶ 50; *Aparna Ajinkya Firodia v. Ajinkya Arun Firodia*, (2024) 7 S.C.C. 773 (India) (also reported as 2023 INSC 146).
[367] *Selvi*, *supra* note 3; *Nandini Satpathy*, *supra* note 43; BNSS, *supra* note 1, § 180(2); *Rahul Agarwal*, *supra* note 3.
[368] BSA, *supra* note 1, § 39; IEA, *supra* note 9, §§ 45, 45A.
[369] *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993).
[370] *Kattavellai*, *supra* note 4.
[371] BNSS, *supra* note 1, § 329; CrPC, *supra* note 2, § 293.
[372] BNSS, *supra* note 1, § 336.
[373] *Irfan*, *supra* note 14.
[374] BSA, *supra* note 1, § 63; IEA, *supra* note 9, § 65B; *Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal*, (2020) 7 S.C.C. 1 (India).

signed by an expert.[375] In *Pune Bar Association v. Union of India* (May 22, 2026) the Supreme Court held section 63(4) rationally connected to its object and observed that a person with proven cyber-forensic skill, not only a notified section 79A Examiner, may sign Part B where the court is satisfied on unimpeachable material.[376] Neither the Schedule nor the BNSS says who signs Part A for a voice specimen recorded before a Magistrate under section 349.[377]

8.3 DNA reports in court

Anil alias Anthony Arikswamy Joseph v. State of Maharashtra accepted DNA profiling as reliable subject to laboratory quality control and procedure.[378] In *Rahul v. State of Delhi*, among other failings, DNA samples had stayed in the police malkhana (evidence storeroom) for about two months and tampering could not be ruled out, and the Court set aside the convictions and death sentences of three men.[379] Civil paternity cases set thresholds the criminal codes lack: *Goutam Kundu v. State of West Bengal* and *Sharda* require a strong prima facie case before bodily testing, and *Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik* let a completed DNA exclusion prevail over the presumption of legitimacy now in BSA section 116, successor of IEA section 112.[380] *Aparna Ajinkya Firodia*, *Ivan Rathinam v. Milan Joseph* and *R. Rajendran* refuse routine orders for fresh tests, while *Nikhat Parveen v. Rafique* (April 2026) applied *Nandlal* to a court-ordered, unchallenged report.[381]

8.4 Chain of custody

Neither the BNSS nor the BSA states a chain-of-custody rule for biological samples. BNSS section 176(3) stops at scene collection, and the BSA's references to proper custody concern old documents and electronic records, not biological exhibits.[382] The requirement is judicial. In *Kattavellai* a three-judge bench discarded DNA evidence for broken custody, acquitted a death-row convict on a case with other infirmities, and issued four directions for all cases involving DNA evidence: collection must be documented, with the signatures of the medical professional, the investigating officer and independent witnesses, their absence being excusable if efforts are recorded; samples must reach the laboratory within 48 hours; no package may be opened or resealed without the trial court's authorisation; and a countersigned Chain of Custody Register must run until the case ends, failing which the investigating officer must explain the lapse.[383]

The directions are judge-made, confined to DNA, and state no consequence for breach beyond the officer's duty to explain; *Kattavellai* itself discarded the evidence, which suggests that breach goes to reliability, but the directions do not say so.[384] BSA section 63(4) shows that Parliament knew how to write

[375] BSA, *supra* note 1, § 63(4) and Schedule.
[376] *Pune Bar Ass'n*, *supra* note 12; Information Technology Act, 2000, § 79A.
[377] BSA, *supra* note 1, § 63(4) and Schedule; BNSS, *supra* note 1, § 349.
[378] *Anil alias Anthony Arikswamy Joseph v. State of Maharashtra*, (2014) 4 S.C.C. 69 (India).
[379] *Rahul v. State of Delhi*, *supra* note 14.
[380] *Goutam Kundu v. State of West Bengal*, (1993) 3 S.C.C. 418 (India); *Sharda*, *supra* note 59; *Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik*, (2014) 2 S.C.C. 576 (India); BSA, *supra* note 1, § 116; IEA, *supra* note 9, § 112.
[381] *Aparna Ajinkya Firodia*, *supra* note 59; *Ivan Rathinam v. Milan Joseph*, 2025 INSC 115, 2025 S.C.C. OnLine S.C. 175 (India); *R. Rajendran*, *supra* note 3; *Nikhat Parveen alias Khusboo Khatoon v. Rafique alias Shillu*, 2026 INSC 399 (India Apr. 21, 2026) (Karol & Kotiswar Singh, JJ.) (non-reportable).
[382] BNSS, *supra* note 1, § 176(3); BSA, *supra* note 1, §§ 92, 93.
[383] *Kattavellai*, *supra* note 4.
[384] *Id.*

an integrity rule into statutory text, so its absence for biological samples reads as a gap in drafting rather than a considered choice.[385]

8.5 Forensic categories the BSA does not address

The BSA names handwriting, finger impressions and electronic records, and little else. It sets no standard for the statistical reporting of DNA evidence, such as random-match probabilities and mixed profiles, none for the identification of voices obtained under section 349, and none for bite marks, footwear impressions, toolmarks or firearms examination; CCTV facial comparison reaches the BSA only as to file authenticity under section 63.[386] Scientific reviews abroad have found several of these feature-comparison disciplines wanting in demonstrated validity, which is the risk this silence leaves open.[387]

BNSS section 230 entitles the accused to copies of the police report and relied-on documents within fourteen days, but a summary report is not access to the sample or to raw laboratory data such as electropherograms and bench notes, and neither enactment grants a right to a preserved split sample or independent re-testing.[388] Where re-testing has been allowed it has rested on inherent powers, as when the Telangana High Court permitted a convict a second DNA test in June 2025 under BNSS section 528.[389]

8.6 Article 21 and wrongful-conviction risk

The right to a fair trial forms part of Article 21,[390] and under *Maneka Gandhi v. Union of India* a procedure depriving a person of liberty must be fair, just and reasonable.[391] Custody governed only by judicial directions, no defence access to independent testing, and a report received without mandatory examination of its author can converge on a conviction resting on a result the defence could not test.[392] In *Rahul*, *Irfan* and *Kattavellai*, correction came only through Supreme Court scrutiny of capital sentences, a safeguard dependent on time and resources an ordinary accused may lack.[393]

9. CONCLUSION

Three questions carry the most weight, and the 2023 text answers none of them.

The first is which door governs when the same material can be demanded through several. A person never arrested can be made to give a voice sample under BNSS section 349 on recorded reasons, but the only provision whose text reaches that person's biological samples is section 5 of the 2022 Act, which has no arrest condition and no recorded-reasons requirement. The instruments differ on who may order, whether arrest is a precondition and what refusal costs, and nothing ranks them or lets the narrower safeguards limit the wider power.

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[385] BSA, *supra* note 1, § 63(4).
[386] *Id.* §§ 39, 63.
[387] Nat'l Rsch. Council, Strengthening Forensic Science in the United States: A Path Forward (Nat'l Acads. Press 2009); President's Council of Advisors on Sci. & Tech., Report to the President: Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods (Exec. Off. of the President Sept. 2016).
[388] BNSS, *supra* note 1, § 230.
[389] *X v. State of Telangana*, 2025 S.C.C. OnLine T.S. 515 (Telangana High Ct. June 27, 2025) (Moushumi Bhattacharya, J.); BNSS, *supra* note 1, § 528.
[390] *Zahira Habibulla H. Sheikh v. State of Gujarat*, (2004) 4 S.C.C. 158 (India).
[391] *Maneka Gandhi v. Union of India*, (1978) 1 S.C.C. 248 (India).
[392] BNSS, *supra* note 1, §§ 329, 336.
[393] *Rahul v. State of Delhi*, *supra* note 14; *Irfan*, *supra* note 14; *Kattavellai*, *supra* note 4.

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The second is what refusal costs, and whether a court may supply what the text omits. Section 51 authorises force, section 349 is silent, the 2022 Act deems refusal an offence, and *Haseeb Ullah Khan* added bail cancellation, which no provision states. Whether a criminal court may draw an adverse inference is undecided, and *R. Rajendran* suggests it would need a lawful direction first. Two doctrinal points also rest on analogy alone: that *Selvi* binds the re-enacted phrase "such other tests" in section 51, and whether Article 20(3) itself reaches a person never arrested.

The third is the least visible and the most dangerous: what protects the accused once the sample leaves the body. Custody rests on *Kattavellai*, which covers DNA only and attaches no consequence to breach. Reports enter the record under sections 329 and 336 untested unless the defence disputes them, and *Irfan* leaves open whether a non-capital accused has the same claim to cross-examine the expert. The BSA sets no reliability standard for DNA statistics, voice or pattern evidence, section 230 reaches documents and not samples or raw data, and the DNA Bill that would have regulated databases was withdrawn.

On present authority an Article 20(3) challenge to compelled blood, finger-impression or voice sampling is unlikely to succeed, and privacy and nexus are the firmer ground. The more productive reform targets the sample's afterlife: extending the *Kattavellai* directions beyond DNA with an express consequence for breach, guaranteeing raw-data access, a preserved split sample and independent re-testing, requiring the expert's examination where the defence disputes a report, and enacting a DNA statute with purpose limits, retention periods and deletion on acquittal. The 2023 enactments legislated most where the law was settled, in examination powers and specimens, and least where it was contested, in consent, refusal, custody and reliability. Until those silences are filled, testing forensic evidence falls to defence lawyers and appellate courts, and wrongful-conviction risk will track an accused person's resources as closely as the strength of the evidence.

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