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# The Right to Silence vs. The Science of Interrogation: Re-Evaluating Self-Incrimination in The Digital Age

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## ABSTRACT

*The intersection of the right to silence and the evolution of interrogation techniques, fueled by rapid technological advancements, necessitates a critical reassessment of self-incrimination principles, especially within the digital domain. This article delves into the complex dynamics of traditional legal protections against self-incrimination in the face of innovative digital interrogation methods, with a focus on the Indian legal landscape. Through an exploration of historical perspectives, constitutional foundations, and the transformative impact of technology on interrogation practices, it examines the challenges and opportunities presented to the legal framework. The discussion is enriched by a comparative analysis with international standards, a review of scientific and ethical implications of modern interrogation technologies, and a critique of the legal and practical ambiguities they introduce. By analyzing landmark Supreme Court judgments and proposing future directions for the legal treatment of self-incrimination in a digital age, the article contributes to the broader discourse on balancing individual liberties with the demands of effective law enforcement.*

**Keywords:** Right to Silence, Self-Incrimination, Digital Interrogation, Brain Mapping, NARCO Analysis.

## I. INTRODUCTION

The race between technological progress and legal regulation becomes more complex than ever, the language of silence and interrogation encounters several challenges and opportunities in the institutes of law in terms of the right against self-incrimination in the digital age. The Roman legal maxim *nemo tenetur se ipsum accusare*, which no one is bound to accuse oneself, finds significant ramification in the present-day digital interrogation rooms. In this article now, I begin to explore a path explaining the contours of a debate that intersects older restraints on interrogation with the right against self-incrimination in the release of information in the digital

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age. I intend to discuss this state of affairs by focusing on the Indian legal perspective.

The right to silence is a fundamental part of the jurisprudence of justice and gives to an individual the power of restraint – to not answer questions or give evidence that can be used against him or herself. The right to silence is a common-law right and is based on the right in British law to not provide evidence that can be used against yourself or incriminate yourself – the right of Miranda against self-incrimination (also known as right against self-incrimination). This principle appears in most international treaties on human rights such as Article 14(3)(g) of the International Covenant on Civil and Political Rights (ICCPR) and in the domestic law of many countries such as India.

Right to silence self-incrimination in India is constitutionally protected under Article 20(3) of the Constitution: ‘No person accused of any offence shall be compelled to be a witness against himself....’ Self-incrimination protection is the right under which ‘no one may be forced to give testimony, or produce evidence, pursuant to which such person incriminates himself.’ Pertinently, the right to silence – to not incriminate oneself – has emerged as a significant bulwark against the excessive coercive and exorbitant powers of the state in India. Benefits of this right have been expanded over time through meticulous judicial interpretation and clarification. The Supreme Court of India, in landmark cases such as *Nandini Satpathy v. P L Dani* and *Selvi v. State of Karnataka*, has expanded and clarified the scope and application of this right.

The practice of interrogation has also evolved considerably over time, not least due to the advances in digital technology, which enables sophisticated forms of surveillance, the interrogation of personal data, digital footprints, and the analysis of psychometric data by means of algorithms that can gauge and predict individual online behavioral susceptibilities. More brutal forms of in-person physical interrogations – as illustrated by Vilkhovsky’s newspaper article referenced above – have given way, for example, to a relentless bombardment of targeted and often unanswerable questions in an encroaching computer-animated simulacrum of a military setting, or the technique known as binaural beats, which aims to induce a vacuous state of hypnosis by exposing a wartime suspect to a beat tone played through an earphone in a sound-insulated room.

The science of interrogation has expanded beyond traditional polygraph tests to tap the potential of neuroscientific methods – including functional magnetic resonance imaging (fMRI) and electroencephalograms (EEG) – that can supposedly detect lies or determine truth by measuring brain activity. Digital interrogation, in turn, uses social-media analysis, data mining and pattern

recognition to generate leads or infer guilt, changing the very nature of criminal investigation and interrogation.

This poses a conundrum for the digital evolution: although such techniques enhance law-enforcement and intelligence activities, they also raise tricky problems about privacy, consent and self-incrimination. The digital detritus we unwittingly deposit on forums and elsewhere is a rich mine of evidence that, by questioning, might prompt people to incriminate themselves in a way that would prejudice the right to silence.

Therefore, the contest between these novel or perceived novel interrogation conditions and the constitutional right to silence requires a critical examination of the prevailing legal regime. This examination must focus on the adequacy of the existing safeguards against self-incrimination, and explore reforms to uphold the right to silence against digital interrogation.

This dialogue builds against this backdrop of Indian case law and statutory provisions, exploring the judiciary's journey in dealing with the apparent conflicting requirements, and what the way forward might be. In doing so, the discourse seeks to further the dialogue on balancing the scales of forensic justice; hoping its modifications in the digital era, so that the right to silence and the science of interrogation evolve together to serve the twin goals of balancing between the need to protect individual liberties as well as ensure the efficient administration of law.

## **II. HISTORICAL PERSPECTIVE AND CONSTITUTIONAL FOUNDATIONS**

Enshrined in legal tradition, the right against self-incrimination is the cornerstone of all modern criminal justice systems. As a right, it is sometimes depicted as having a long political pedigree in the law, but the fact is that its distinguished origins in late-17th-century England were humble – an outgrowth of another (related) medieval right not to incriminate oneself in English courts of ecclesiastical jurisdiction. The purpose of the medieval right was equally modest: ‘Although the Church had a clear power to commission documents and require people to make an oath to tell the truth, no person who had ever been admitted into any manner of religious order was to be subjected to an “ordeal to purge oneself of alleged guilt” – as the common lawyers would say, self-incrimination.’ In practice, the right to be shielded from self-incrimination became a reaction to the abuses of the Star Chamber and the ecclesiastical courts in the 17th century.

It was upon such grounds that the Latin maxim *nemo tenetur se ipsum accusare* – no one is bound to accuse himself – would become one of the cornerstones of common law, expressly enacted to protect citizens against arbitrary invasions by the state as well as ensure the due process of law in public courts by preventing those courts from beginning to turn against themselves by starting to drive the wheels of justice by evidence elicited at the point of a sword

or through the muzzle of a pistol. In the 19th century, this usage would be codified and expanded upon further in the jurisprudence of many individual nations, and has come to be cultivated as one of the keystones of the law of many modern democratic nations the world over.

### **(A) Constitutional Provisions Related to Self-Incrimination in India**

The right against self-incrimination is constitutionally protected under Article 20(3) of the Constitution of India: No person accused of any offence shall be compelled to be a witness against himself. India is one of the few countries in the world that does so. The object of this right is to protect a person during the investigation and trial of the criminal process against confessions, admissions or incriminating statements elicited by evidence procured by the rack or by threat of death, violence, or torture, or by any direct or implied gravity or hardship unless the adverse inference is produced by evidence autonomously adduced by the prosecution or by a confession made, or by a statement given voluntarily and without any inducement, by such person.

Since then, the Supreme Court has repeatedly interpreted and substantially strengthened this right through landmark judicial orders. The *Nandini Satpathy v. P L Dani* judgment extended the ambit of Article 20(3) protection to those ‘who may be, and those who may become, accused of the commission of the offence’, with the court stressing that the founding fathers of India’s Constitution would like to see the right against self-incrimination as widely protected as possible. In *Selvi v. State of Karnataka*, a judgment on the constitutionality of remedial investigation techniques like narcoanalysis, brain-mapping and polygraph (lie-detector) tests, the court repeated this concern for bodily and mental autonomy, holding such tests to be constitutionally prohibited as they ‘may violate the rights guaranteed under Article 20(3) of the Constitution ... The information in the hands of the investigating agency after such tests may also be self-incriminatory.’

### **(B) Comparative Analysis with International Human Rights Standards**

It is also enshrined in many international human rights instruments, evidence of its universal value. The right against self-incrimination is protected in the International Covenant on Civil and Political Rights (ICCPR) by Article 14(3)(g), which provides that ‘no one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offence was committed.’ India is a signatory to the ICCPR.

Indeed, its interpretation and application differ from state to state and jurisdiction to jurisdiction,

influenced in part by moral, legal and historical context. In the US, for example, the Fifth Amendment to the Constitution offers extensive protection from self-incrimination in a variety of proceedings. Similarly, under Article 6 of the European Convention on Human Rights, individuals must be afforded a fair trial, interpreted by the European Court of Human Rights to include protections from self-incrimination.

Yet these underlying elements notwithstanding, the contours and applications of the right against self-incrimination might be quite varied. For instance, due to the judiciary's thoroughgoing approach to a balancing exercise of this right against the justice demands, we see a more delicate jurisprudence in India that focuses on the question of voluntariness of participating in the legal process, and the quality of evidence emerging out of that chosen route of participation, while other jurisdictions might apply either more rigorous or less demanding standards on what qualifies as compulsion.

### **III. THE SCIENCE OF INTERROGATION: AN OVERVIEW**

#### **(A) Traditional Interrogation Methods**

It's long been the case that one of the hardest parts of a criminal investigation involves interrogating a suspect. Over the centuries, questioning or interrogation techniques have gradually become more sophisticated – and more psychological. Classical techniques rely on the psychological manipulation of the suspect as a means of inducing stress, confusion, disorientation and then co-operation. The so-called Reid technique, the prevalent technique deployed by police in the US and the UK as well as in many parts of Western Europe, remains an eclectic mixture of behavioral analysis and psychological manipulation techniques. Ultimately it all points back to the interrogator's ability to watch the suspect's behaviour in order to analyse verbal and non-verbal cues, and apply psychological pressure in an attempt to drive them to confession.

#### **(B) Introduction to Technological Advancements in Interrogation**

Technological innovations have indeed improved the interrogation process, but the emphasis has now shifted toward interrogation technologies. During the digital age, lie detection and technologies such as those derived from neuroscientific analysis of the interrogation process have come under scrutiny as legitimate sources of skilled evaluation of the suspect and the use of relevant information he or she might provide as evidence. Aspects of character and suitability for re-entry into society might also be used to evaluate choices among all possible sentences. The incorporation of technologies involving lie detection and neuroscientific analysis into the interrogation process raises difficult ethical and legal questions about the right against self-

incrimination, and the potential for invasion of privacy.

### *Narco Analysis*

In narco analysis, the suspect is given sedative drugs to lower his/her inhibitions, with the presumption that in this semi-conscious state, the suspect will be more likely to divulge truthful information. The use of narco analysis in India has faced a lot of legal scrutiny. The groundbreaking Judgment on the issue of voluntariness of confessions of the Supreme Court of India. The Supreme Court of India held that narco analysis in an involuntary manner infringes on the right against self-incrimination under Article 20(3) of the Constitution of India (1950). The Court noted that such methods violate the mental and bodily integrity of a person and these could be used only with the consent of the individual whose body is being searched or interrogated.

### *Brain Mapping*

Brain mapping, or Brain Electrical Oscillation Signature (BEOS) profiling, is another controversial method that can attempt to establish whether the part of the brain responsible for the memory of an event has been activated at the time of recall. In this procedure, brain waves are examined to figure out whether there is specific knowledge or memory of the crime in the suspect's mind. As in the case of narco analysis, in the Selvi judgment of the Supreme Court, the ban on the use of brain mapping was interpreted as covering the situation where the police try to force or coerce the suspect into giving his or her consent to the procedure. The Court held that brain mapping, which violated the constitutional rights such as privacy and right not to be compelled to be witness against oneself, could not be undertaken without the willful consent of the individual.

### *Polygraph Tests*

Polygraphs, more commonly known as lie detector tests, measure and record physiological indicators such as blood pressure, pulse, respiration and skin conductivity as a test-subject is questioned and answers a series of questions. These tests are based on the principle that there will be physiological responses associated with deceptive answers that can be distinguished from those associated with non-deceptive answers. In popular culture, these tests are portrayed as foolproof, compelling, and tell-all, but they have long been subject to controversy regarding their reliability and admissibility before a court of law. In considering the principles enshrined in Selvi v. State of Karnataka, the Indian judiciary has asserted that polygraph tests cannot be compelled upon an individual. They are in violation of the right to privacy, and incompatible with the right against self-incrimination.

### **(C) Ethical and Legal Implications of Using Technology in Interrogation**

Incorporating new technologies into torture methodologies risks reaching deep into new moral and legal issues such as the right to remain silent and avoid self-incrimination. They become viable because they claim to extract compelled confessions and coerced testimony from bodies and brains that appeared to us as the mindsets of a free individual. Narco, brain mapping and polygraphs all penetrate the farthest depths of mind and body, implicating issues of informed and voluntary participation and the truth of evidence given.

Additionally, the validity of these methods has long been dubious, as they have been fiercely scrutinized by scientists and members of the judicial system. There are false positives, potential manipulability, issues of interpretation and so on, which undermine confidence in the effectiveness of technology-assisted interrogation methods. Alternatively, there are also ethical considerations involved, such as questions of consent, the risk or actuality of psychological injury, and security concerns over the erosion of citizens' rights in the pursuit of results.

India's legal regime, relying on a series of test case judgments establishing landmark precedents, has attempted to find a way through these problems by insisting that an iota of privacy and the right against self-incrimination must be preserved through constitutional rights safeguards. Technology can be used to assist criminal investigations, the judiciary has reasoned, but only so long as the accused step away from privacy and consent to interrogation and interrogators in the most possibly voluntary way.

#### **1. The Indian Evidence Act, 1872: Sections Relevant to Self-Incrimination**

The Indian Evidence Act, 1872, is the blueprint of the limits and the scope of the self-incrimination right in Indian law. In section 45, dealing with opinions of experts, there is an indirect reference to the exclusion of scientific tests as evidence in an interrogation (Narco analysis, brain mapping, polygraph etc, but not specifically in relation to the tests). In such a way, the self-incrimination protection appears in the core provision section 161, which says that a witness can refuse to answer a question putting a witness at a risk of self-incrimination. The Evidence Act does not spell out who is to behave like whom (the technologists) at the process of collecting evidence.

#### **2. The Code of Criminal Procedure, 1973: Provisions Related to Interrogation**

With regard specifically to the procedures relating to interrogation and collection of evidence from a suspect, we must see the Code of Criminal Procedure, 1973 (CrPC) which contains detailed provisions relating to criminal investigations conducted in a state of law. Section 161 of the CrPC allows police officers to cause any person to sign his name to what is called a



‘cognizance record’, if such police officer believes the person to be acquainted with the facts and circumstances of any such cognizable offence or other cognizable information; but it also provides that the signature or thumb impression of such person shall not be deemed to be the signature or thumb impression of a witnesses. Now, section 161 also provides that such a person shall be bound to answer truly all questions relating to the cognizable offence or other cognizable information, subject to the limitations that nothing stated in such record or questions shall be deemed to subject such person to any criminal charge or penalty or forfeiture; and that the provisions by section in relation to recording of confessions shall not apply to such record or to any part thereof: reinforcing the right against incrimination so that he cannot be compelled to make a statement against his own interest.

Section 164 of the CrPC specifies how confessions or statements are recorded by the magistrate concerned and emphasises that such confessions are made voluntarily and willingly, informed of the consequences thereof, which ensures that no coerced confessions take place in police lock-ups.

#### **IV. RELEVANT SUPREME COURT JUDGMENTS SHAPING THE INTERPRETATION OF SELF-INCRIMINATION RIGHTS**

Through these and other judgments, the Indian Supreme Court has interpreted and strengthened the right against self-incrimination in the wake of improvements in interrogation technology.

*Selvi v. State of Karnataka*

This judgment groundbreaking judgment ruled that the administration of scientific techniques, such as narco analysis, brain mapping or polygraph tests, upon suspects or accused persons violate the constitutional guarantee against self-incrimination enshrined in Article 20(3) of the Constitution, as these techniques are not consensual processes and threaten the very validity of assured due process.

*Nandini Satpathy v. P L Dani*

This case extended the privilege against self-incrimination to the pre-trial stages, holding that a person can’t be forced to give incriminating statements in police interrogation.

Such rulings reflect a judiciary committed to vindicating individual rights amid the repercussions engendered by new methods of extracting information.

##### **(A) Analysis of Legal Loopholes and Areas Lacking Clarity**

However, despite the robust statements and judicial interpretations of privacy that attempt to reconcile the rights and privacy interests of individuals with the demands and needs of law

enforcement, there are still a number of expansive areas of ambiguity and loopholes at play:

- **Voluntariness and Consent:** Voluntariness – that is, the issue of freely giving consent in the context of narco analysis, brain mapping, and polygraph tests – remains a bit of a grey area even today. Things such as the difference between a voluntary plea and one that is coerced, for instance if it is made while in custody or under a lack of freedom – seem too easy to exploit.
- **Admissibility Of Evidence Obtained Through the Use of Technology:** Here, the Supreme Court has spoken to the problem of administration without consent – the use of coerced interrogation techniques – but there is not yet a clear rule concerning the admissibility of evidence gathered consensually using these technologies or others. How those data are evaluated and admitted into evidence can vary over time and from court to court.
- **Protection in Digital Interrogation** With the changing nature of interrogation to include digital search and digital analysis, some of the currently applied legal protections might fail to address the nuances of digital privacy and the possibility of self-incrimination through digital remnants. Whether current laws offer adequate protection to individuals in the digital age remains a question and might well require legislative updates.
- **Training and Standards for Technologically Assisted Interrogation:** In the absence of standardized protocols and training in the application of scientifically validated interrogation techniques, there is a heightened chance that these techniques will be applied in an erroneous fashion, and furthermore there is an elevated risk that the evidence obtained thereby will be unreliable.

## **V. THE INTERSECTION OF LAW, TECHNOLOGY, AND HUMAN RIGHTS**

The complex interaction – and even occasional collision – between law, technology and human rights as analyzed with reference to the law and practice on interrogation techniques has recently come to occupy a central space in the constitutional debates in both India and beyond. The speed with which technological developments threaten to impact the right to silence and, in turn, undermine the critically important rights guaranteed to an accused person by constitutional provisions such as Article 20 (3) of the Indian Constitution, as also the protections embodied in the Fifth Amendment of the US Constitution, have given the right to silence its utmost current importance.

### **(A) The Impact of Technological Interrogation Techniques on the Right to Silence**

Narco analysis, brain mapping and polygraph tests: sarcastically dubbed a ‘cuddle and cartilage test’, ‘black magic’, ‘branding by electrical image’, ‘bone-breaking’, and all ‘on the quiet, lest popular rumor gets ahead of us’ – technological interrogation techniques should put an end to torturing the suspect’s conscience. And so, today, advanced technology provides ‘refined’ interrogation techniques that can allegedly shine a light on the murkiest corners of the human mind and extract immense quantities of information that was previously impossible to reveal. It is certainly the rosier prospect ever for the criminal investigation institutions of the ‘land of the free’ (the US). But how does the right to silence adapt to ‘non-violent’ technology? Certainly not according to classical notions of confession and self-incrimination.

These technologies apply pressure to the right to silence, so embedded in the right not to be compelled to connect one’s incrimination to a crime, for instance if drugs (in narco-analysis) are administered to lower inhibitions and induce the suspect to respond to questions, or to ‘read’ out the suspect’s face through brain-mapping so as to discern a pattern of recognition connected to the offence. In effect, by ‘dismantling’ the conscious act to speak, these methods are seen as violating the right to silence – by bypassing it.

### **(B) Ethical Considerations: Consent, Coercion, and the Risk of False Confessions**

Two terms central to this question of ethics are ‘consent’ and ‘coercion’. In the fundamental judgment in *Selvi v. State of Karnataka*, which struck down police use of these techniques in India, consent was the crucial factor. The Court noted that the issue of involuntary self-incrimination was ‘inextricably linked’ to the need for consent. The ruling on consent spoken to a wider issue in setting limits on these procedures – the possibility of what I call overt (i.e., explicit) or prior (i.e., implicit) coercion – and thus manipulation – of participation.

Another less obvious way in which interrogation can pervert consent is coercion – whether through the power of the interrogator, the psychological pressure of purportedly voluntary yet highly one-sided interaction, or exploitation of a detainee’s condition of subjection. The problem of coercion is also heightened by the danger of false confessions, which represent another major problem of ‘traditional’ and new technology-based interrogations alike. Intense psychological pressure, mistargeted or misinterpreted, can result in false confessions, which in turn create grave risks of miscarriage of justice and wrongful convictions.

### **(C) The Reliability and Scientific Validity of Technological Interrogation Methods**

The veridicality of technological interrogation techniques is an issue subject to considerable critique and discussion. While it has been argued that the techniques provide objective means

to ascertain the truth, it has been observed that the methods are not subject to any consensus among scientists regarding their accuracy and reliability.

For instance, though polygraph (lie-detector) tests are used judicially in all jurisdictions and are often considered reliable in many other contexts, the available evidence has revealed that they are amenable to countermeasures and susceptible to arbitrariness, and that they can be used for the arbitrary or malicious interrogation of suspects. Similarly, the presumed scientific basis of narco analysis and brain mapping has been found to have conspicuous lacunas in the literature because the responses given by subjects might not always establish the truthfulness of their version of the events, or even reflect recognition of their guilt. This caution, which is manifested in the observation in the Selvi judgment that ‘a mere breath of a possibility that the technique involves a genuine danger to the accused’s right and dignity renders the method impermissible’, is to be commended.

However, an additional and independent reason for skepticism about the scientific merits of these forms of technological interrogation also exists. Evidence that such procedures are error-prone puts at risk not just the scientific integrity of these methods, but also the essential fairness of trials by raising the risk that defendants might be convicted of crimes on the basis of tainted evidence.

## **VI. CHALLENGES AND CONTROVERSIES**

The use of emerging technology in interrogation has given rise to novel legal and moral discussions surrounding the right to silence and the right against self-incrimination in the digital age. This tension between the improvement of investigative methods and the protection of basic human rights is accentuated by these challenges and controversies.

### **(A) Legal Challenges in the Admissibility of Evidence Obtained Through Technological Means**

From the perspective of most criminal law systems, the central legal issue remains how evidence gained through technological interrogation should be admitted. The Indian criminal law is no different from many others in the world, torn between the demand to provide more and sharper tools of law enforcement and the need to uphold the rights of the accused, including the right to silence.

The Supreme Court of India addressed this head-on in *Selvi v. State of Karnataka*, passing a precedent for the use of ‘evidence’ derived from narcosynthesis, brain mapping and polygraph: Evidence obtained under a procedure which is volunteered by the arrested person and which is

not involuntary, coerced, forcible or contrary to the rights guaranteed under Article 20 [Right to Silence] and 21 [Right to Life] will be admissible. Consent and awareness about rights conferred on the individual are key factors in how evidence is gathered and presented in a court of law.

Furthermore, the Indian Evidence Act, 1872 and the Code of Criminal Procedure, 1973, set out rules on the admissibility of evidence but fail to address the peculiarities introduced by modern technological methods. The absence of an explicit legislative framework has led to largely litigation-based interpretations and judicial pronouncements. This stresses the need to update the legislations in light of new challenges.

### **(B) The Debate Over the Infallibility of Technological Interrogation Methods**

The role of technology in interrogation raises questions about whether it will make methods more reliable. Those who believe that technology can make interrogations better argue that these methods, although still highly controversial, would be most effective at eliminating aspects of interrogation that rely on coercion (and, therefore, would be the most fallible). In the case of narco analysis, brain mapping and polygraph tests, however, there has been considerable skepticism about their scientific validity and reliability.

Critics cite the possibility of false positives, a potential for examiner bias, and the ease with which these techniques can be manipulated by their subjects. Results from these tests are often critically dependent on an element of interpretive judgment, too; subjective if factors must intrude, they cannot be fully error-free. The debate is far from purely abstract, since the actual operation of law is one of the principal contexts in which questions about proof are posed, and on which questions about some other important values such as liberty and dignity might hinge.

### **(C) Privacy Concerns and the Potential for Abuse**

Mental privacy may be an early casualty of the use of technology. Mental interrogation largely takes place within the most intimate and private corners of an individual's mind. Indeed, mental intrusion appears, upon reflection, to assault mental privacy. Mental intrusion will often lead to finding information that is completely irrelevant to the crime investigators are looking into. Even more than physical intrusions, mental intrusions appear to grant a *carte blanche* to the interrupter to dig through one's mind littered with sedimentary layers of information that is *ultra vires* of the criminal investigation, and therefore invasive of one's privacy and dignity.

Further, given the opportunities for abuse, and in the absence of robust legal protections with adequate oversight, these sorts of methods could well be deployed coercively or involuntarily – in so doing, undermining justice and due process. This risk is heightened in circumstances

where there may be fewer legal protections in place, or where basic cultural awareness might be lacking..

#### **(D) Future of Interrogation Techniques and the Right to Silence**

In the 21st century, as the areas of technology and policing collide, interrogation and the right to silence may start to look very different. As technology races into the next century, it's likely to profoundly change how interrogation is conducted. That highlights the need to stay ahead of the curve on technology – and policing methods – so that every legal response keeps pace with the world we live in, and individual rights are protected as we move to a predominantly digital society.

#### **(E) Emerging Technologies and Their Potential Impact on Interrogation Practices**

The next generation of methods will probably arise out of the growing use of artificial intelligence (AI), machine learning and big data analytics, which will enable the scrutiny of previously impossible amounts of data, including from social media, surveillance cameras and personal devices, to produce, for instance, profiles and predict probabilities of acts, or connections.

Additionally, technologically advanced forms of polygraphs that are far more powerful than today's polygraph, narco-analysis and brain mapping could soon be within our grasp. Real-time brainwave analysis, advanced facial-recognition software that detects micro-expressions, and artificial-intelligence-enabled behavioral analysis tools could all lead to new ways to assess the veracity of statements made during the course of an interrogation.

Their value when applied to interrogations could be enormous: they seem likely to help police better predict who is innocent and who is lying, and ultimately make investigations more accurate and efficient. Yet the same technologies could also trigger grave reservations about issues such as privacy and consent, as well as the risk of automating bias in a way that could undermine fairness by balancing those rights with the need not to incriminate oneself.

#### **(F) The Need for Legislative Updates to Address Technological Advancements**

The accelerated pace of evolution of interrogation technologies also necessitates urgent legislative updates. India's (and other country's) legal provisions for, or impediments to, interrogation technologies, like all laws, were drafted in a different technological era, and are, therefore, woefully inadequate in addressing the nuances and challenges of contemporary interrogation technologies. We need and deserve laws relating to the use, limits and admissibility of evidence obtained by interrogation technologies.

Legislative reform should attempt to balance law enforcement's need for tools to combat crime with the fundamental rights of individuals. Such guidance would include rules defining the acceptable use of technology during interrogations, what it means to offer voluntary consent in these contexts, and stringent limitations on the admissibility of evidence obtained technologically.

### **(G) Proposals for Safeguarding Individual Rights in the Digital Age**

Many of the following proposals rise to the task of protecting individual rights even against the intrusions of emerging techniques of interrogation:

- **Consent and Voluntariness:** Specific to this context, any form of technology use in the scrutiny process, should be based on informed and voluntary consent. For that, interrogators should guarantee their target's awareness of their rights, the nature of the technology being used, and also clarified the implications of their participation.
- **Transparency and Oversight:** Police departments should be transparent about the technology used and what information they're collecting from these interrogations; there should be mechanisms to oversee and prevent abuse.
- **Third-Party Verification:** No new interrogation technology should be deployed without third-party validation of its internal and external scientific validity. The goal of independent certification is to keep law-enforcement practices independent of technologies that haven't been shown to work or that are morally problematic.
- **Legal Protections:** The legal standards that govern interrogations should be updated to reflect specific elements related to digital and other technological means, such as defining the scope of allowable use, protecting privacy interests, and clarifying when evidence obtained by these means is admissible in court.
- **Training:** it is important that law enforcement be trained extensively on the ethical, legal and practical aspects of employing technology in interrogation so that their training makes them sensitive to the rights of the individual, and they adopt a holistic approach towards obtaining reliable, voluntary and accurate evidence.

## **VII. RECOMMENDATIONS FOR RE-EVALUATING SELF-INCRIMINATION LAWS**

In light of digital advancements and other technologies of interrogation, self-incrimination law must be revisited to ensure the efficacy of protections for individual rights in an ever-changing criminal investigation landscape.

**(A) Developing a Framework for Ethical and Legal Use of Interrogation Technologies**

- **Legal Standards:** Legally require the development of clear standards for when and how interrogation technologies can be used. This would involve defining the conditions under which evidence generated through technological interrogation can be used by the courts, and which such evidence is strong enough to pass such scrutiny.
- **Informed Consent Protocols:** Require law enforcement authorities to become a part of technologically assisted interrogation by requesting their explicit and informed consent in advance and only upon the condition that the person understands their legal rights to remain silent and the consequences of legal and physical procedures. This means having the right thing to say, yes or no, at the right time 3. **Enforcement mechanisms:** Authorities should impose requirements for training and certification to use newly introduced technology, ensure periodic reviews and random spot-checks of those who are certified, and provide strong and comprehensive penalties for violating best practices or any certification requirements.
- **Interdisciplinary Oversight Committees:** Create interdisciplinary oversight committees for approval and review of any new interrogation technologies. These committees – composed of experts in law, technology, ethics, and from civil society – would need to approve the adoption of new technologies, periodically review their ethical implications, their effectiveness, and their legal compliance in light of these considerations, in order to serve as a check against misuse, or overreliance on untested or unproven interrogation methods.

**(B) Strengthening Safeguards Against Coercion and Involuntary Confessions**

- **Stronger Legal Protections:** Rewrite existing criminal statutes to provide greater protections against coercive interrogations and involuntary confessions, along with substantial penalties for police officers who torture or use coercive methods.
- **Training programmes for law enforcement:** establish and require training for law enforcement agents teaching correct and humane methods of interrogation that respect the right of voluntary compliance — and the consequences for violations through obtaining forced confessions.
- **Legal Counsel:** Reasonable access to legal counsel should be available to anyone being subjected to a technological interrogation both before an interrogation, and during those portions of the interrogation that will be its most intrusive. Legal counsel may help to



deter overreach and protect a person's rights.

### **(C) Enhancing the Reliability and Transparency of Technological Interrogation Methods**

- **Standardization and Certification:** Develop standardized and certification procedures for all technological interrogation measures to ensure they are reliable and accurate. The standards should be generated through rigorous scientific validation and peer review. Certification must be granted by an independent regulatory body.
- **Public disclosure and education:** Promote more public disclosure and education about the strengths, weaknesses and legal standards of technological interrogation techniques, including dissemination of the standards used to vet these technologies, their rates of success, any risks or limitations, and other information so that these tools and techniques cease to remain largely a mystery to the public and the legal system.
- **Judicial training:** Specially train judges and legal personnel in the scientific basis of forms of technological interrogation and the appropriate standards to apply in assessing admissibility and reliability when evidence obtained using such methods is used in court.

## **VIII. CONCLUSION**

The fragile balance between the efficient use of the law and the preservation of personal rights in the area of interrogation has been further challenged by digital technologies in terms of the evidence, this article demonstrates that complex legal, ethical and practical dilemmas arise in the use of sophisticated interrogation technologies such as narco-analysis, brain mapping and polygraph tests. Although the use of these technologies is likely to increase the accuracy of the criminal investigations, their use in the interrogation of suspects raises multiple concerns regarding the preservation of the right to silence and the potential for self-incrimination – a fundamental human right, an integral part of the legal jurisprudence, which is considered the cornerstone of every democratic society such as India.

These landmark judgments of the Supreme Court of India – *Selvi v. State of Karnataka* in particular – clearly demonstrate not just the judiciary's commitment to safeguard the contours of rights against self-incrimination in the face of technological developments, but also its evolution with progress, while simultaneously building an alternative interpretation of scientific advances that serves the interests of the accused. Through these judgments, the judiciary not only reaffirmed the sanctity of rights of the individual during interrogation but also established

a benchmark to incorporate scientific techniques into criminal investigation, subject to informed consent and ensuring voluntariness and mental privacy.

Moreover, the comparison with international human rights standards and the jurisprudence of other democratic jurisdictions confirms much too that the jurisprudential struggle across jurisdictions to come to terms with the implications of the technological and social reality regarding the very nature of criminal investigation is as old as the criminal law itself and as universal as the struggle between the promises that technological innovations hold for human creativity and human dignity and the imperatives of legal fairness. Of course, the variety of interpretations and applications of the right against self-incrimination is also an important reason why, for better or for worse, we need a jurisprudence that recognizes local, cultural, legal and historical differences and still tries to find consensus between jurisdictions over the fundamental principles of the commonly recognized rights of man.

When we question the ethics and the science of interrogation technologies – as I have done in the article described above – we can sense just how essential it is to have legal and due-process safeguards that can keep pace with rapid technological change. Anschutz had his assistant Yasha formally question him, with detection technology looking for deception. Ensuring the reliability and ethical use of such technologies is critical, from questions of validity, to avoiding incrimination, to wrongful conviction, and the invasion of privacy. In the digital age, in particular, the very traces that make up an individual's digital identity can end up unwittingly presenting self-incriminating evidence.

In sum, in the light of compelling indications that existing legislation is in need of updating, the status of the court decisions obscure, and that there is as yet no agreed-upon set of protocols for using the new technological interrogation techniques, the preservation of the civic foundations of free polities absolutely requires the legislative and judicial clarifications and the establishment of safeguards that include increased transparency of interrogation, more accountability to the polity, and more informed public awareness of the new, ever more productive and threatening capabilities of interrogation technology. As the jurisprudence emerges from the maze it has created in the past year in accommodating the technological expansion of interrogation techniques, the continued security of the personal rights that define a person's rights to freedom under the law ought to be a paramount consideration.

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