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A PANORAMIC VIEW OF BALANCING PERSONAL LIBERTY AND SCIENTIFIC TECHNIQUES IN CRIMINAL INVESTIGATION IN INDIA

AUTHORED BY - DR.G.RAJASEKAR*

ABSTRACT

The evolution of criminal investigation in India reflects a significant shift towards the integration of scientific methods, enhancing law enforcement's ability to solve complex cases. Techniques such as DNA profiling, narco analysis, polygraph testing, and brain mapping have transformed investigative practices, enabling agencies to uncover critical evidence and bring perpetrators to justice. However, these advancements raise pressing ethical and human rights concerns, particularly regarding the potential misuse of forensic evidence and the infringement of individual rights during investigations. As the criminal justice system grapples with these challenges, it is essential to maintain a balance between effective law enforcement and the protection of human rights. The diverse and complex legal landscape in India necessitates a rights-based approach to ensure fairness and integrity throughout the investigative process. This abstract underscores the importance of safeguarding human rights while leveraging scientific advancements in criminal investigations, highlighting the need for ongoing discourse and reform to address ethical dilemmas and uphold the principles of justice.

Keywords: criminal investigation, scientific methods, human rights, forensic evidence, ethical considerations, India, law enforcement.

I. INTRODUCTION

From the earlier centuries, the quest for justice has been a constant thread woven into the fabric of human societies. The criminal investigations have undergone a remarkable transformation in employing the methods that is from non-technical methods of earlier days to the sophisticated techniques of today in identifying the perpetrator of crimes. This transformation is fuelled by the relentless evolution of scientific techniques, which have replaced intuition and guesswork with a powerful arsenal of objective evidence. In criminal investigation, scientific

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techniques refer to the systematic application of scientific principles, methodologies, and technologies to examine evidence to solve crimes. These techniques include various scientific disciplines, like; forensic science, biology, chemistry, physics, and technology, to gather, examine, and interpret evidence and information in criminal inquiries and judicial processes. These techniques plays a crucial role in modern law enforcement by providing objective and reliable methods for identifying suspects, establishing timelines, reconstructing crime scenes, and corroborating witness testimony.

Forensic science is an integral part of the Criminal Justice System and the enforcement of the rule of law. Forensic science can be defined as the science that applies all aspects of medical knowledge to the law. Its scope encompasses both the legal requirements and the entirety of the medical field. Anatomy, physiology, medicine, surgery, chemistry physics and botany lend their aid as necessity arises; and in some other cases all these branches of science are required to enable the court of law to reach to a proper conclusion on a contesting question effecting life or property[1]. India, is a democratic country having 'Rule of Law,' as the basic principle of the governance where the supremacy of laws ensures justice for all. The security and freedom of citizens heavily rely on laws and the Constitution, yet their practical enforcement often falls short, with legislative and judicial decisions frequently remaining theoretical. The efficacy of law enforcement by the police is essential for maintaining public safety and enabling societal cohesion.

The landscape of criminal investigation in India has undergone a profound transformation, driven by the rapid advancement of scientific methods and technologies. As society progresses, the legal system must adapt to meet the evolving demands of justice and societal norms. At the heart of this evolution lies the judiciary's responsibility to interpret laws in a manner that aligns with the best interests of the community. In criminal investigations, the quest for truth is paramount, necessitating effective interrogation techniques and fact-finding methods. The adoption of modern forensic technologies such as DNA profiling, narco analysis, polygraph testing, and brain mapping has significantly enhanced the capabilities of law enforcement agencies. These scientific tools have empowered investigative bodies to unravel intricate criminal cases, thereby improving the accuracy and efficiency of the justice process. However,

[1] The first paragraph of Alfred Swayne Taylor's Principles and Practice of Medical Jurisprudence, first published in 1865. (Medical jurisprudence was term favoured over forensic Medicine in 19th century. The former term reflecting more accurately the subjects' perceived subservience to the needs of the law).

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the integration of these advanced methodologies also raises critical ethical and human rights concerns. The potential for misuse and misinterpretation of forensic evidence underscores the importance of safeguarding individual rights throughout the investigative process. As India navigates this pivotal juncture, it is essential to strike a balance between leveraging scientific advancements in criminal investigations and ensuring the protection of human rights. This balance is crucial for maintaining the fairness and integrity of the criminal justice system, ultimately reflecting society's commitment to both justice and human dignity.

The increasing incidence of reporting crimes and the inadequate state efforts to prevent them contribute to the unsatisfactory state of criminal investigation in India. The high rate of acquittals in criminal cases is primarily due to mishandling of crime scenes, failure to use scientific investigation techniques, lack of understanding of the potential of evidence, and overall mismanagement of cases. This paper intends to explore the intersection of scientific techniques in criminal investigation and the safeguarding of human rights in the context of the Indian criminal justice system.

II. MEANING OF CRIMINAL INVESTIGATION

In broad terms, investigation involves the search for and discovery of information and facts related to a specific incident or event. In India, the responsibility for crime investigation lies primarily with the police, while the judiciary operates outside this framework. Criminal investigation is defined as the process of uncovering, collecting, preserving, and analyzing evidence to resolve a crime and identify the offender. This systematic and comprehensive approach is carried out by law enforcement agencies to gather relevant information and evidence pertaining to a criminal offense. Simply put, a criminal investigation entails the collection and analysis of evidence to pinpoint suspects and prepare for trial. The essential function of criminal investigation is to ensure public safety, uphold the rule of law, and hold individuals accountable for their actions. Successful investigations require meticulous attention to detail, strict adherence to legal protocols, and a steadfast commitment to impartiality and thoroughness. Criminal investigation, as defined by the Indian Penal Code (IPC) and the Code of Criminal Procedure (CrPC), encompasses several key elements that are essential for the effective resolution of criminal cases. The primary objective of a criminal investigation is fact-finding, which involves ascertaining the facts surrounding the alleged crime to establish a clear narrative of events. This process includes examining the crime scene, collecting physical evidence, and interviewing witnesses to gather comprehensive information. Another critical

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aspect of criminal investigation is evidence collection. Investigators are responsible for gathering admissible evidence that can substantiate claims of wrongdoing. This may involve collecting forensic evidence, witness testimonies, digital records, and any other material that can aid in proving the case. Additionally, the identification of suspects is a vital component of the investigation process. Investigators evaluate leads and information to determine the individuals involved in the criminal act, which is crucial for apprehending the right suspects. Criminal investigations must also adhere to a legal framework established by the CrPC, ensuring that the rights of individuals are protected throughout the process. This includes maintaining the integrity of evidence and following protocols that govern search and seizure, arrests, and interrogations. Finally, the culmination of a criminal investigation is the preparation of a comprehensive report that serves as a foundation for prosecution in a court of law. This report includes all collected evidence and findings, enabling the legal system to adjudicate the matter fairly and uphold justice.

III. ELEMENTS OF CRIMINAL INVESTIGATION

1. Evidence Collection- Investigators gather physical evidence such as DNA samples, fingerprints, weapon fragments, and other relevant materials from the crime scene. They also collect witness statements, surveillance footage, and any other information that might aid in solving the crime.
2. Analysis- Once collected, evidence undergoes thorough analysis by forensic experts and investigators. This analysis aims to link suspects to the crime scene or victim, establish a timeline of events, and reconstruct what happened during the commission of the crime.
3. Interrogation and Interviewing -Investigators question witnesses, victims, and suspects to gather additional information and piece together the sequence of events leading up to the crime. This may involve conducting formal interviews, obtaining confessions, or eliciting information through informal conversations.
4. Surveillance- In some cases, investigators may conduct surveillance to monitor the activities of suspects or gather additional evidence. This can involve physical surveillance, electronic monitoring, or undercover operations.
5. Collaboration-Criminal investigations often involve collaboration between various law enforcement agencies, forensic experts, and other professionals. This collaboration may extend beyond national borders in cases involving transnational crimes or jurisdictional issues.

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6. Documentation and Reporting-Throughout the investigation, investigators meticulously document their findings, observations, and actions taken. This documentation is crucial for building a case and ensuring that all relevant information is preserved for legal proceedings.
7. Prosecution-Once the investigation is complete and sufficient evidence has been gathered, the case may be handed over to prosecutors who will decide whether to file charges against the suspect and pursue legal action in court.

IV. SCIENTIFIC TECHNIQUES OF CRIMINAL INVESTIGATION

Dating back to ancient times, criminal investigation has its roots in the Code of Hammurabi, which advocated the rights of both the accuser and the accused to present evidence they had collected[2]. Criminal investigation is a practical science that involves the study of facts to identify, uncover, and establish the guilt of an accused criminal. It encompasses a comprehensive range of activities, including probing, consultations, cross examinations, evidence collection, preservation, and various investigative techniques[3]. Today, criminal investigations are primarily conducted by police forces and other state investigating agencies in general and in sometime private agencies also engaged to support or carry out such investigations. Criminal investigation is an integral part of the criminal justice system, to prevent law breaches, enforce laws, handle lawbreakers, and provide relief to victims, thereby ensuring the smooth functioning of society and the country. The primary objective of an effective criminal justice system is to uphold the standards of conduct necessary to safeguard individuals.

Scientific method in crime investigation is a systematic way used in criminal investigation to prove evidence in a criminal case. These techniques helps to minimize the error and ensure accurate and reliable answer. The evolution of scientific techniques in criminal investigation has propelled law enforcement into a new era of precision and efficiency. By harnessing the power of technology and interdisciplinary collaboration, investigators can unravel the most intricate mysteries, bring perpetrators to justice, and uphold the principles of fairness and accountability in the criminal justice system. As technology continues to advance and forensic

[2] Ann Wolbert Burgess, Albert R. Roberts, Cheryl et al, Learning: Victimology: Theories and Applications 2009, page 103.
[3] Charles E. O'Hara and Gregory L. O'Hara, Fundamentals of Criminal Investigation (Sixth Edition, 1994), page 132.

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science evolves, the future of criminal investigation holds endless possibilities for further innovation and progress.

Over a period of time, forensic science witnessed momentous advancements, including DNA analysis, fingerprint identification, ballistics, toxicology, and digital forensics. These techniques have transformed the way evidence is collected, analysed, and presented in court, greatly bolstering the accuracy and reliability of criminal investigations. Further, the advancement of digital technologies has opened new avenues for criminal investigation. The cybercrime continues to pose serious challenges in the digital age. Digital forensics allows investigators to retrieve and analyse electronic evidence from computers, smartphones, and other digital devices, uncovering valuable information crucial to solving complex cases ranging from cyber attacks to online fraud.

These scientific advancements, collaboration between law enforcement agencies, forensic experts, and academic institutions has played a vital role in driving innovation and improving investigative techniques. The increasing importance of forensics, coupled with the ever-evolving nature of crime, necessitates better evidence collection by law enforcement agencies. Forensic science doesn't exist in a vacuum. It works hand-in-hand with traditional investigative methods like witness testimonies and alibi verification. By combining these approaches, investigators can build a more comprehensive and compelling case.

Forensic science is crucial in criminal investigations and is inseparable from maintaining law and order in society. Crime has been a part of human civilization since ancient times, with references in religious texts. All over the world the impact of science and technology in the judicial system is very significant, the states have embraced scientific techniques in their criminal investigations[4]. Scientific investigation helps establish a connection between past and present crimes, known as the *"Corpus Delecti*[5]" or the body of the offense. Forensic evidence is widely recognized in the legal system because of its objective nature and minimizing bias. Techniques like DNA profiling have become common globally. The history of forensic methods, such as fingerprint recognition, dates back to ancient China. Forensic testimony is crucial for both convicting and exonerating suspects worldwide, leading to an increase in

[4] Nayan Joshi, Medical Jurisprudence and Toxicology (Kamal Publishers ,New Delhi, 2008), P.180
[5] Manoj .H. Parekh and S.P. Singh Parmar ,Crime Investigation and Medical Science,(Allahabad Deviwedi Company),2008 pg.6

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forensic science labs. Special Acts in countries like the US, Canada, and Australia aim to improve forensic services, emphasizing timely and high-quality crime scene management to enhance crime detection and potentially increase conviction rates.

In India also judiciary has begun to convict the guilty solely relying on scientific evidence, if the chain of custody is fully maintained, establishing guilt beyond any reasonable doubt. A combination of ocular and scientific evidence seems to be the remedial solution for ensuring justice, emphasizing a professional approach to the collection, analysis, and evaluation of scientific evidence[6].

In *Pooja Pal V State of Uttar Pradesh*[7], the Supreme Court of India while discussing the need of scientific techniques to investigation observed that, "The joining of science with traditional criminal investigation techniques offers new horizons of efficiency in criminal investigation[8]"

V. APPLICATION OF FORENSIC TECHNIQUES IN CRIMINAL INVESTIGATION

Though in the earlier days the Forensic Techniques in criminal investigation is not appreciated by the judiciary in the part of 20th century witnessed a significant change in the judicial approach.

In *Bazari Hajam V King Emperor Bazari Hajam and Barbmdeo Kader*[9], the conviction solely based on fingerprint report overturned their convictions on the appeal by observing that fingerprint evidence alone is not enough to convict someone of a serious crime. In other words, just because someone's fingerprints match those found at a crime scene, it doesn't necessarily mean they are guilty.

Again, in *Din Muhammed V Emperor Central Provinces Police Gazette*[10], the court declined to accept the footprints as evidence because the study of footprints was not a science. In this case, the court examined the admissibility and reliability of footprint evidence in the context of a criminal investigation. Footprints can provide crucial information about the presence of a

[6] Dr. G. K. Goswami "Forensic Law", Annual Survey of Indian Law, Vol. LI, 2015, p.598
[7] *Pooja Pal V State of Uttar Pradesh* (2016) 3 SCC 135.
[8] *Ibid* Quoted from, Paul B. Weston and Renneth M. Wells "Criminal Investigation- Basic Perspectives" 96
[9] AIR1922 Pat 73
[10] AIR1927ALL107

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suspect at a crime scene, and their analysis can help establish connections between the suspect and the crime. The case highlighted the importance of properly collecting and preserving footprint evidence, as well as the need for forensic expertise in analyzing such evidence. The court's ruling emphasized that while footprints can be valuable in linking a suspect to a crime, their evidential weight depends on various factors, including the conditions under which they were found and the methods used for their analysis. The court expressed skepticism regarding the validity of the footprint evidence presented, emphasizing that it was not sufficient to establish a direct link between the accused and the crime. The judgment highlighted the need for corroborative evidence to support the claims made based on the footprints.The court's decision underscored the importance of ensuring that any evidence, including footprints, must meet certain standards of reliability and must be collected and analyzed properly to be admissible in court. In this instance, the lack of adequate supporting evidence led to the conclusion that the footprints alone could not substantiate the charges against Din Muhammed. This case serves as a critical reference point in discussions about the admissibility and weight of forensic evidence in criminal investigations.

But, in *Pritam Singh V State of Punjab*[11], by changing its earlier observations accepted that science of identification by footprints is a rudimentary science or a basic science.

In *Harpal Singh V State of Himachal Pradesh*[12], the Supreme Court has accepted the age of the girl ascertained by scientific techniques through medical test since it was found correct with the school records and birth certificate.

In *Priyadarshani Matoo's* [13]case, a case of rape and murder, brought DNA testing within the Indian legal system. During the trial, DNA tests conducted on vaginal swabs from the deceased proved positive, leading to a successful outcome in delivering justice.

In Sister *Abhaya's*[14] murder case, Convictions for the Accused is relied heavily on scientific evidence. In addition to the testimony of an eyewitness. Gynaecological test on Sister Sephy, presumably to question her fidelity. Narcoanalysis tests, a controversial technique, were also

[11] AIR 1956 SC 415
[12] AIR1981 SC 361.
[13] *Santhosh Kumar Singh V The State through CBI*, (2010) 9SCC747, see also Sushilsharma V State of Delhi (2014) 4 SCC, 317. , State of Tamil Nadu V. Nalini &ors; 1996(6) ,SCC 241
[14] *In Re: Sr. Abaya*, 2006(2)KLT1001

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used on the accused. These various methods of scientific investigation played a significant role in securing the convictions.

Balancing the need for an effective investigation and prosecution with the fundamental rights of individuals posed a continuous challenge to the Indian criminal justice delivery system. The growth of scientific techniques offers tremendous potential in resolving crimes and securing convictions. Scientific techniques became indispensable in the modern criminal investigations, playing a pivotal role in sorting out mysteries, establishing facts, and ensuring justice.

The increasing dependence on scientific methods obliges a careful examination of its impact within the framework of fundamental rights, particularly in a society like India which is complex and diverse. The use of scientific methods in criminal investigations increased the importance of ethical and legal considerations, particularly concerning the protection of fundamental human rights. These techniques aids the investigators to examine physical evidence, reconstruct crime scenes, and link suspects to criminal activities with unparalleled accuracy. For example, DNA evidence, can definitively link a suspect to a crime scene, exonerating the innocent and ensuring convictions based on robust proof[15].

DNA profiling has arose as a powerful tool for identifying individuals and establishing genetic connections in cases involving sexual assault, murder, and paternity disputes[16]. Recognizing the need for regulation of the use and application of Deoxyribonucleic Acid (DNA) technology, the Union Government introduced a Bill, The DNA Technology (Use and Application) Regulation Bill, 2019[17]. “The DNA Technology (Use and Application) Regulation Bill,2019” has been formulated for establishing identity of missing persons, victims, offenders, under trials and unknown deceased persons[18]. But, the bill was pending.

Going by the Statement of Objective and Reason of the DNA technology, based on sound scientific principles has been found to be very effective in establishing the parentage of a child and identifying the source of a biological specimen obtained from a scene of crime. The

[15] DNA Profiling: https://www.genome.gov/ accessed on 30.9.2024
[16] National Human Rights Commission. (2000). "DNA Profiling and Human Rights." New Delhi, India: National Human Rights Commission.
[17] Bill No. 128 of 2019, as introduced in Lok Sabha the 27th June, 2019, https://prsindia.org/files/bills_acts/bills_parliament/2019/The%20DNA%20Technology date of visit
[18]https://dbtindia.gov.in/regulations-guidelines/regulations/dna-profiling-bill, date of visit 02-10-2024

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concerns regarding appropriate use of DNA technology by the courts of law and other agencies has made it necessary to develop guidelines and standards for the DNA testing[19].

Likewise, forensic ballistics allows the examination of firearms and ammunition, helping to connect weapons to specific crimes and establish patterns of criminal behaviour[20]. Digital forensics also helps to track financial trails, uncover communication networks, and dismantle complex criminal organizations[21].

The prominence of scientific techniques in criminal investigations cannot be exaggerated. They not only improve the efficiency and efficacy of law enforcement efforts but also contribute to the pursuit of truth and justice. By providing objective and reliable evidence, scientific techniques help to minimise the risk of wrongful convictions, ensure accountability, and uphold the rule of law. Therefore, the use of scientific evidence has not only strengthened the criminal justice system but has also inculcated public confidence in the quest of justice.

Among the developments in forensic science, it is necessary to uphold fundamental human rights principles like fairness, dignity, and due process. The respect for the rights of individuals, in the criminal proceedings, using scientific techniques is available only by ethical considerations. Fairness dictates that scientific evidence be collected, analysed, and presented in a manner which is transparent, impartial, and free from bias. Dignity demands that individuals under criminal investigations must be treated with respect irrespective of their status or circumstances. Due process guarantees procedural safeguards to the suspects, defendants, victims, and witnesses throughout the investigative and adjudicative process[22].

[19] *Supra Note.18*, The Statement of Object and Reason runs as; DNA technology has the potential of wide application in the justice delivery systems. In criminal cases, it helps in investigation of crimes through biological evidence including semen evidence in rape cases, blood evidence in murder cases, saliva evidence in identification of source of anonymous threat letters, etc. In civil cases, it helps in investigations relating to identification of victims of disasters like cyclones, air crash, etc. A number of crimes are committed by repeat offenders, who apprehension and conviction will be aided by comparison of biological evidence at the scene of crime with DNA profiles stored in a DNA Data Bank. At the same time, the DNA analysis offers substantial information, which if misused or improperly used, can cause harm to individuals or society
Recognising the need for regulation of the use and application of DNA technology,
Based on the recommendations of the Expert Committee, the Bill was revised and subsequently referred to the Law Commission of India who in its two hundred and seventy-first report suggested the enactment of a legislation
[20] Bureau of Police Research & Development. (2017). "Handbook on Forensic Ballistics." New Delhi, India: Bureau of Police Research & Development.
[21] Digital Forensics and Organized Crime: https://european-union.europa.eu/institutions-law budget/institutions-and-bodies/search-all-eu-institutions-and-bodies/europol_en date of visit 30-08-2024
[22] United Nations Office on Drugs and Crime. (2004). "Human Rights Standards and Practice for the Police: Expanded Pocket Book on Human Rights for the Police." Vienna, Austria: United Nations Office on Drugs and Crime.

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Failure to uphold these principles will undermine the integrity of criminal justice systems and take away public trust in law enforcement institutions. Besides, violations of human rights in search of justice not only harm the individuals directly but also weaken the moral fabric of society and undermine the legitimacy of governmental authority.

The rights embodied in various International Human Rights declarations and Covenants are found placed in the various provisions in the Indian Constitution.

The Indian Constitution confirms a range of fundamental rights, including the right to life and personal liberty (Article 21), the right to equality before the law (Article 14), and the right to a fair trial, Protection against Arrest and Detention (Article 22). Art 20(3) gives protection against incriminatory questions. Therefore, human rights within the criminal justice system, imposing limitations on state power and ensuring the protection of individual liberties by these constitutional provisions.

VI. SCIENTIFIC TECHNIQUES IN CRIMINAL INVESTIGATION AND HUMAN RIGHTS

The progress of society based upon how law adapt the Social change. Law is an effective tool to bring communal changes and it is the responsibility of judiciary to interpret and enforce it for the benefit of society. Therefore, it is crucial for judicial minds to remain attuned to and abreast of developments in the world around them. The advancement and peaceful existence of the society is bed rocked on the successful criminal administrative justice system. It can be achieved by employing effective methods for its detection, investigation, and prevention. Many a time criminals utilize new technologies in their unlawful activities, law enforcement agencies must also utilize modern scientific techniques to solve such crimes. When criminals exploit advancements in science for their illicit activities, investigators often continue to rely on traditional interrogation methods for crime detection[23] resulting criminals evading from accountability through a broad interpretation of legal principles by the courts.

Scientific techniques play an important role in the crime investigation within the world criminal justice system, including in India. Forensic science helps to identify individual suspects who

[23] R.S David “Scientific Techniques in Crime Investigation” New York Publication page 234

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committed the crime, providing vital evidence for proving guilt. It also assists in corroborating circumstantial evidence by providing concrete details about the crime's location. Forensic investigations also gives a quick understanding about the criminal's modus operandi, or method of operation. Investigators in forensic laboratories reconstruct the identities of both the offender and victim to analyse the situation[24].

During the investigation process, the investigator collects evidences either at the crime scene or from witnesses. These evidences are analysed in laboratories, and the results are submitted before court. Every case has its own unique challenges, making different crime scene. Forensic science plays a fundamental role in the criminal justice system by providing scientifically derived information by analysing physical evidence such as footprints, blood drops, fingerprints, or hair, establishing their connection to the crime.

While using forensic science in crime investigations investigators has to faces certain legal constraints, often prompting courts to pose specific inquiries. India is also not an exception this. The legal constraints are constitutional validity of these techniques, limitations of forensic techniques in crime investigation, types of evidence do experts gather through scientific investigations are some of them. Article 20(3) of the Constitution of India prohibits compelling an accused to be a witness against himself. This protection against self-incrimination safeguards privacy and presumption of innocence in criminal proceedings. It shields the accused from custodial torture in the name of interrogation. A similar provision is enshrined in the Universal Declaration of Human Rights. Article 11 of the UDHR proclaims that everyone has the right to be presumed innocent until proven guilty in a court of law during trial, allowing them to gather all evidence to defend themselves[25].

Among several questions, whether the evidence produced by scientific methods would violate Article 20(3) of the Indian Constitution is a rudimentary one.

State of Bombay V Kathi Kalu Oghad[26] is a landmark judgment in which the scope of being witness against oneself is decided. In other words doctrine of protection against self-incrimination under Article 20(3) of the Constitution is discussed. In this case collecting bodily

[24] S. C. Parakh, "Expert Witness" 421 IJA Vol.55 (2011)
[25] UN General Assembly, Universal Declaration of Human Rights, 217 A (III), 10 December 1948, https://www.refworld.org/legal/resolution/unga/1948/en/11563 [accessed 12-08-2024]
[26] AIR 1961 SC 1808

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samples from accused individuals is squarely excluded from the purview of Art.20 (3), which subsequently influenced the expansion of permissible specimen collection through statutes and judgments. In *Virender Khanna V State of Karnataka and Another*[27] in this case High Court of Karnataka observed that compelling a person to provide either passcodes or biometric to access personal electronic devices will not amount to violation of Art.20 (3).

The Bombay High Court in *Ramchandra Reddy and Others V State of Maharashtra*, uphold the legality of use of P300 or Brain Mapping and narco analysis tests. The court also held that evidence obtained under the influence of narco analysis tests is admissible.[28].

It is now a settled principle that taking of voice samples from an accused for the purpose of an investigation is not amount to a violation of Article 20(3) of the Constitution. In other words, taking voice samples from an accused does not mean that an accused is compelled to be a witness against herself. Still a question remains in the mind is which provision of provides the power to compel the accused to provide a voice sample. This can be understood from the following words of the Judiciary in *Ritesh Sinha V State of U.P*[29] acknowledged that even there is no specific legal provision empowers a Magistrate can authorise the investigating agency to take voice samples. Justice Desai applying the doctrine of '*ejusdem generis'* held that such other test mentioned in explanation (a) to Sec.53 Cr.P.C. includes voice sample. Therefore, a magistrate would have implied power under Sec. 53 to pass an order permitting investigating agencies to collect voice samples for investigation[30].

In this background, the observation of the Bombay High Court in *CBI V Abdul Karim Ladsab Telgi*[31] is a laudable one. The Court held that measuring the frequency or intensity of speech sound waves can be considered to be "measurement" as defined under the Identification of Prisoners Act. Therefore, the Magistrate who is empowered under Section 5 of the Act to order a person to be "measured", may compel the accused to provide their voice sample[32].

[27] 2021 SCC OnLine Kar5032
[28] MANU/MH/0067/2004
[29] AIR 2019 SC 3592, this case beautifully sets a precedent in criminal jurisprudence wherein although there is a lack of legislation on the point, through judicial interpretation a magistrate was conceded the power to collect voice samples for the purposes of investigation of a crime.
[30] Ibid para.7, see also para 5.26-29, Law Commission of India 87th Report on Identification of Prisoners Act, 1920.
[31] 2005 Crl.LJ 2868, see also *Supra Note*.27
[32] The Identification of Prisoners Act, 1920 (Act No. 33 Of 1920), Sec.5 runs as; Power of Magistrate to order a person to be measured or photographed.-
If a Magistrate is satisfied that, for the purposes of any investigation or proceeding under the Code of Criminal

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Again in *Pravinsinh Nrupatsinh Chauhan V State of Gujarat*[33] the Supreme Court followed its earlier ration in *Ritesh Sinha V State of U.P*[34] held that;

We unhesitatingly take the view that *"until explicit provisions are engrafted in the Code of Criminal Procedure by Parliament, a Judicial Magistrate must be conceded the power to order a person to give a sample of his voice for the purpose of investigation of a crime. Such power has to be conferred on a Magistrate by a process of judicial interpretation and in exercise of jurisdiction vested in this Court under Article 142 of the Constitution of India".*

Of late Indian judiciary realised the necessity of applying scientific methods in combating complex criminal tactics[35]. The Courts in India stressed the importance of specialist supervision to ensure compliance with human rights standards while employing these techniques[36].

The Apex Court understanding the importance of these new techniques in the criminal administrative justice system emphasised the societal duty to cooperate with law enforcement agencies in providing vital information for justice, striking a balance between constitutional rights and investigative imperatives[37]. It is now clear from the above decisions that the judicial approach towards the use of scientific techniques in criminal investigations, emphasizing the paramount importance of upholding fundamental rights while effectively combating crime and ensuring justice for all.

VII. PERSONAL LIBERTY *Vs.* SCIENTIFIC CRIMINAL INVESTIGATIONS

The two most cherished rights among the other rights in a democracy is Personal Liberty and Privacy making the human life a dignified one. So, the democratic countries across the globe

Procedure, 18981, it is expedient to direct any person to allow his measurements or photograph to be taken, he may make an order to the effect, and in that case the person to whom the order relates shall be produced or shall attend at the time and place specified in the order and shall allow his measurements or photograph to be taken, as the case maybe, by a police officer:
Provided that no order shall be made directing any person to be photographed except by a Magistrate of the first class:
Provided further, that no order shall be made under this section unless the person has at some time been arrested in connection with such investigation or proceeding

[33] 2023 LiveLaw (SC) 463
[34] *Supra Note* 30
[35] *Rojo George V. Deputy Superintendent of Polic*e 2006 (2) KLT 197
[36] *Santokben Sharmabhai Jadeja V State of Gujarat 2008(2)KLT398*
[37] *Dharampal V State* (2014) 5 SCC 509, see also; *State of Gujarat V Anirudh Singh* AIR 1997 SC2780

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protect liberty and privacy through law. The derogation of any of these rights is the beginning of denial of such rights. Erosion of any right is a starting point of Extinguishment of that right. Realising the importance of these rights Indian judiciary through its catena of judgements delve into the intricate balance between right against self-incrimination and the use of scientific methods in criminal investigations.

M. P. Sharma V Satish Chandra[38], the court highlighted the scope of Art 20(3) in providing privilege to individuals solely as witnesses in court. The judicial interpretation expanded the scope of Art 20(3) to encompass evidence acquired outside the courtroom, emphasizing the right against self-incrimination and the privilege of silence.

The Supreme Court reiterated its earlier interpretation of Article 20(3) in *M.P. Sharma & Ors. V Satish Chandra, District Magistrate, Delhi*[39] held that being "compelled to be a witness against himself" included more than just oral testimony in trials. It also encomposes acts like providing documents or other evidence that could incriminate the accused. However, the Court held that compelled collection of handwriting, fingerprint, or palm print specimens from the accused did not violate the protection guaranteed under Article 20(3) of the Indian Constitution.

The Supreme Court in its decision in *Nandani Satpathy* confirmed that right to remain silence during interrogation is protected under Art.20 (3) of the Indian Constitution and also by Sec.161 (2) of Cr.P.C[40]. The Indian Judiciary clarifies the need for preserving constitutional rights amidst the use of scientific examinations in its various decision[41]. The courts underlined that subjecting an accused to scientific tests like polygraph and narco-analysis should not be equated with coercion to break their silence, thus protecting the fundamental rights enshrined in the Constitution[42]. With the growth of new technological, medical techniques are being used in criminal investigations to collect new evidence and speed up the investigation process. Keeping this in mind, Indian Judiciary has begun to accept these techniques in criminal investigation and also outlined the limitations of using test outcomes as evidence, emphasizing the lack of conscious control by the subject during examination[43].

[38] AIR 1954 SC 300
[39] *Ibid*
[40] *Nandini Satpathy V P.L. Dani* AIR 2010 SC 340
[41] *Dinesh Dalmia V State* 2006 Cri LJ 2401 (Mad.)
[42] *Ibid*
[43] *Selvi V State of Karnataka* AIR 2010 SC 1974

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VIII. PRIVACY AND THE RIGHT AGAINST SELF-INCRIMINATION

The court has to address the question of whether the involuntary administration of these tests violates the right to privacy along with other rights under Article 21. The "right against self-incrimination" under Article 20(3) does not protect the accused who may be compelled in administrative or civil liability proceedings where criminal charges are not anticipated. In such cases, justice may be different, and Article 20(3) would not be applicable if the test results could lead to non-criminal consequences for the accused or subject, such as custodial abuse, police surveillance, or harassment. To address these possibilities, it is necessary to assess whether the voluntary administration of any of these tests aligns with the guarantee of "substantive due process." The standards of "substantive due process" are crucial for evaluating the validity of governmental actions that encroach upon the concept of "personal liberty."

In *People's Union for Civil Liberties V Union of India*, the court ruled that unauthorized telephone tapping violates the "right to privacy" of individuals or accused persons. But, the court did not prohibit telephone tapping by the police, as it deemed necessary for preventing crime. Therefore, the current approach is that such practices are permissible only if conducted under proper legislative authorization that regulates their use.

In *D.K. Basu V State of West Bengal* the Court laid down certain basic requirements to be followed by the investigating agencies in all arrest to prevented the "cruel, inhuman or degrading treatment" of any person or accused who is taken into custody. The law does provide some restrictions on "personal liberty" for proper functioning of the police. Those restrictions are in place to enable reasonable exercise of power by the police. There is a basic premise of the criminal justice system, that the police and the judiciary always exercise a reasonable degree of coercive powers. The notion of "personal liberty" found in the Constitution of India does not grant rights in the absolute sense and the validity of restrictions placed on the same needs to be evaluated on the basis of criterion such as "fairness, non- arbitrariness, and reasonableness"[44].

Today there is a general feeling in the minds of the people that during investigation there may be possibilities of custodial abuse, surveillance, or undue harassment of the accused based on

[44] (1997) 1 SCC416

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specific test results. The court also highlighted instances where investigation agencies have shared video recordings of Narco analysis interviews with media organizations.

Thus, the court decided that compelling a person to the impugned techniques violates the right of privacy. The compulsory administration of drugs interferes with an accused person's mental processes without statutory provision and conflicts with Article 20(3), which guarantees the "right against self-incrimination."

IX. CONCLUSION

In the Indian legal perspective, the integration of scientific techniques in criminal investigations has significantly enhanced the capabilities of law enforcement agencies. Advancements in forensic science, such as DNA analysis, fingerprinting, ballistics, and digital forensics, have proven instrumental in solving complex cases and ensuring justice. These techniques have facilitated more accurate and reliable evidence collection, reducing reliance on subjective testimonies and enhancing the likelihood of fair trials. Additionally, the adoption of scientific methods has streamlined the criminal justice process, leading to expedited trials, reduced case backlogs, and the upholding of the right to a speedy trial, a fundamental aspect of the right to fair and timely justice enshrined in the Indian Constitution.

However, the indiscriminate or improper use of scientific techniques in criminal investigations poses significant threats to human rights in the India context. The lack of robust regulatory frameworks and oversight mechanisms for forensic laboratories raises concerns about the reliability and integrity of forensic evidence. Instances of tampering or mishandling of evidence can compromise the fairness of trials. Moreover, the misuse of surveillance technologies, such as unauthorized wiretapping or drones, infringes on the right to privacy guaranteed under Article 21 of the Indian Constitution.

In light of these complexities, it is imperative for Indian lawmakers, policymakers, and law enforcement agencies to find a balance between effective crime control and the protection of human rights. This includes implementing stringent safeguards to prevent misuse, enhancing the transparency of forensic practices, and ensuring equitable access to justice for all individuals, regardless of their socio-economic status or background. The impact of scientific techniques on human rights in criminal investigations within the Indian legal framework is multifaceted. While these methods can enhance justice and uphold the rule of law, their

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unchecked use may also infringe upon fundamental rights. By adopting a rights-based approach and integrating human rights principles into forensic practices, India can harness the benefits of scientific advancements while safeguarding the dignity and rights of its citizens.

Throughout this discourse, we have explored both the advantages and risks of scientific techniques in criminal investigations. On one hand, advancements in forensic science, such as DNA profiling, fingerprint analysis, and ballistics, have improved the accuracy and reliability of evidence, leading to more successful prosecutions and the exoneration of the innocent individuals. Nevertheless, the unchecked application of these methods can also pose serious threats to human rights, resulting in wrongful convictions, and misuse of technology and violations of privacy.

In navigating this complex terrain, it is essential to strike a delicate balance between the imperatives of law enforcement and the protection of individual rights and liberties. This requires collaborative efforts from policymakers, legal practitioners, forensic scientists, and civil society to establish clear guidelines and standards governing the use of scientific techniques in criminal investigations. Transparency, accountability, and respect for due process must be prioritized to ensure that the pursuit of justice does not come at the expense of fundamental human rights.

Achieving fairness and justice in criminal investigations requires a nuanced approach that embraces the benefits of scientific techniques while safeguarding individual rights. Moreover, promoting public awareness on the ethical implications of forensic science is vital for fostering informed dialogue and ensuring accountability, which can mitigate the risks associated with the misuse of scientific techniques and uphold the principles of fairness, equality, and justice.