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Need for an Independent Mandatory System of Forensic Laboratories

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ABSTRACT

With a boom in science and technology, the world is evolving but at the same time, the rate at which crimes are taking place every day is also increasing at a fast pace. Moreover, the mechanism to put a check on it doesn't match up to its expectations thereby, endangering the dispensing of proper and speedy justice. One reason for such dilution in justice is due to deeply rooted divide between science and policing. The organisational arrangements that connect forensic science and police organisations vary. At an institutional and governance level, the moot question has been, the extent to which forensic services should, or should not, be located within police departments.

In this respect, the basic theme of this research paper will revolve around the independence of forensic science laboratory from law enforcement agencies. The paper will highlight the need for such a cause, by duly stressing upon concerns such as bias and illustrations supporting the same. It will also present counter arguments to give a broader perspective regarding the subject matter at hand. The paper also gives out a few recommendations and suggestions for bringing about enhanced justice by minimising the bias in the prevailing circumstances. The paper ends via a conclusion, a review per se.

Key Words: Independent forensic laboratories, police, law enforcement agencies, bias, justice

I. INTRODUCTION

Across multiple jurisdictions, the structural basis of forensic which includes industry forensic science laboratories differs.² However, amidst all the structural variance, one must pertinently note that one common feature for forensic science services is that of public ownership.³

Most of the forensic service providers are a division of law enforcement agencies. These agencies consist of police departments, where the laboratory administrator reports to the head of such agency. As a result, there is an inherent sense of subordination to such agencies, the

¹ Author is a student at Symbiosis Law School, Pune, India.

² DR. ISHITA CHATERJEE, LAW OF FORENSIC SCIENCE, 96-98 (1 ed. Central Law Publications 2010).

³ R. Koppl, *How to improve forensic science*, 20 EUROPEAN JOURNAL OF LAW AND ECONOMICS 259, 255–286 (2005).

people working in such laboratories may not identify themselves as objective agents of science and would rather be involved in crime fighting group. Therefore, this governmental control has been scrutinised in light of the changing economic and political dynamics. It has been noted that the risk of inaccurate results, suggestive mainly because of bias, occurs as a result of the organizational structure i.e. the forensic laboratories being a subset of law enforcement agencies. Another contention which is to be duly noted is the innate bias and uncertainties associated with the law enforcement agencies.⁴ In addition to that, the police officials are not equipped with knowledge of the working of laboratories. All these factors cumulatively, lead to justice losing its footing.

One cannot overemphasized the number of rogue activities taking place all over the world. In the past decade, there have been myriad scandals with respect to forensic science. Recently, in India, there was tampering of evidence in three rape cases, which helped the accused. In Massachusetts in 2013, state chemist Sonja Farak pled guilty to tampering with drug evidence, potentially affecting 60,000 samples in 34,000 cases.⁵

National Academy of Sciences after carrying out a detailed study and investigation in 2009, in this matter concluded that there is a need for independence for such laboratories from police or other such agencies to ward out any iota of doubt regarding such bias linked with such agencies.⁶ In order to instil and maintain confidence of the general public, thereby, furthering justice, autonomy of such laboratories is an essential requisite.

One may argue that the main concern, namely that of budget, may be resolved by securing some funds for the same.⁷ However, the issue is much more nuanced and layered than it seems and cannot be fixed by mere pitching of money.

Therefore, one possible solution or suggestion to rectify the prevailing circumstances, which has been neglected or failed to be appreciated by most forensic scientists or other public officials alike, is the possible privatisation of the industry.

⁴ John Terzano, *Crime Labs Need Independence and Robust Oversight to Ensure Justice*, THE JUSTICE PROJECT, (Apr 13, 2010 12:59am) available at <https://m.dailykos.com/stories/856564>

Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

⁵ Munish Chandra Pandey, *Forensic officials booked for tampering evidence in sexual assault cases*, INDIA TODAY (September 27, 2019) <https://www.indiatoday.in/india/story/forensic-officials-booked-for-tampering-evidence-in-sexual-assault-cases-1604042-2019-09-27> _

Patrick L. Warren, *Forensic Laboratory Independence, Control, and Exonerations*, (May 20, 2015), available at https://wp.nyu.edu/fas-pepl2015/wp-content/uploads/sites/1915/2015/05/crimelab_county052015.pdf.

⁶ Committee on Identifying the Needs of the Forensic Sciences Community, *National Research Council Strengthening Forensic Science in the United States: A Path Forward*, (August 2009)

⁷ B. Silverman, *Research and Development in Forensic Science: A Review*, 2011, available at <http://www.homeoffice.gov.uk/publications/agencies-public-bodies/fsr/forensic-science-review/>>

II. HYPOTHESIS

The null hypothesis considered for the given study is that there is a need for the independence of forensic laboratories pointing towards bringing in privatization, so as to eliminate any bias that may exist due to the association of the experts and administrators in such forensic science laboratories with the State.

III. RESEARCH QUESTIONS AND AIMS AND PROPOSITIONS

- Whether forensic science laboratories should be independent primarily, of law enforcement agencies.
- Whether the same can be achieved by suggesting possible organisational structure of forensic labs and laying out other proposals in order to ensure that forensic laboratories are free from any kind of bias.

The aim of this Research paper is to bring to discuss scope of this Research paper extends to even analysing the counter arguments against such independence, and proposing possible solutions to combat reduce the current dependence of forensic laboratories on law enforcement agencies and the necessity of independence of forensic laboratories from policing in order to ensure deliverance of justice and inspire confidence amongst the general public.

IV. METHODOLOGY

The researcher has employed doctrinal research, involving analysis of case law, arranging, ordering and systematising legal propositions and study of legal institutions through legal reasoning or rational deduction. Further, analytical methods of research have also been used in order to provide an overview and possible solutions for the main point of contention addressed by the Research paper. The Researcher also employs empirical research in few instances to indicate how many laboratories are located within the local jurisdiction of law enforcement agencies and highlight the number of cases where labs have shown bias due to their dependence on law enforcement agencies.

V. LITERATURE REVIEW

This research paper has taken into consideration contributions from all scholars, those who argue in favour of independence of forensic laboratories and law enforcement agencies and those that argue against the same. However, the majority of the scholars is that the two should be independent in order to prevent and to a certain extent, minimise the bias of forensic labs

in cases. Additionally, an analysis of scholarly opinions provides various reasons for such independence and scholars also suggest that such independence does not have to be absolute, and could be restricted to extent that labs are not dependent on law enforcement agencies for resources or employment.

VI. MOTIVE BEHIND THE INDEPENDENCE OF FORENSIC LABORATORIES

As a matter of fact, full sequence of more than 6 billion base pairs in the human diploid genome is unique to each individual. Based on this fact, forensic science relies on the assumption that every individual is unique and therefore, forensic science is bestowed with the characteristic of being conclusive in nature.⁸

As we all know that the criminal justice system is heavily based on the presumption that an individual is innocent unless proven guilty and forensic science aids and assists in establishing the guilt or innocence of potential suspects. Thus, due to its conclusive nature, it is important to ensure that the forensic samples are not tampered with, as the same would lead to wrongful implication of an innocent and putting him behind the bars.⁹ In addition to that, there is also an added responsibility to ensure that forensic evidence is used to vindicate any person who has been wrongfully convicted.

As it is no news that India is plagued with corruption, it thereby results in misplaced priorities when it comes to following the ethics and code of conduct of the profession. Recently, there were accusations against the police for meddling and interfering in working of the forensic laboratories. The PIL contained allegations that forensic analysts and scientists are unable to function properly and independently. Yet again in 2013, two former Central Forensic Science Laboratory scientists in CBI were convicted for wrongly implicating an individual and thus, awarded imprisonment.¹⁰ One more issue revolves around error in conducting forensic analysis thereby again leading to the false implication or vindications. One glaring example is the Arushi Talwar murder case,¹¹ wherein there was absolute disregard for protocol and the science of forensic. The CBI team stated that 90 percent of the evidence at the crime scene has been destroyed due the lack of diligence and absolute disregard of the investigative procedure. This is major point of concern as tampering of evidence and giving false evidence

⁸ *Mapping and Sequencing the Human Genome*, NCBI, <https://www.ncbi.nlm.nih.gov/books/NBK218247/>.

⁹ Sameeksha Pednekar, *Should Forensic labs be independent of police?*, WORDPRESS, available at <https://jguforensics.wordpress.com/2017/07/28/should-forensic-labs-be-independent-of-police/>.

¹⁰ Police still controlling forensic labs; HC seeks state's response, TRIBUNE (June 02, 2018), <https://www.tribuneindia.com/news/archive/haryana/police-still-controlling-forensic-labs-hc-seeks-state-s-response-598650>.

CBI v. Dr. S.C. Mittal & Ors., RC5 (A) / 2005 / CBI ACUVI.

¹¹ Nupur Talwar vs Cbi & Anr, (2012) 11 SCC 465.

leads to adverse effects on an individual's life and liberty. This is in direct violation of the contours of the Constitution.¹²

As we progress in the world of science and technology, forensic science is an essential device in the criminal justice system. Therefore, it is of utmost importance that the forensic science laboratories have an objective perspective and showcase reliability and accuracy. As necessary for forensic science which is deeply rooted in the notion of scientific proof, the personnel of science should ideally and ethically deal with the samples singularly, without being subjected to any other extraneous considerations. For that reason, there should be proper formulation and implementation of restructuring of the forensic science industry. Therefore, in the opinion of the Researcher, this restructuring should be conducted by granting independence to laboratories, which is not only required from the law enforcement, but scientific laboratories and its employees need to be independent from all such pre-conceived notions which may create a bias when testing the sample. The private and independent laboratories will bring about healthy competition in order to maintain quality standards.¹³

The most significant contention is that such autonomy will boost public confidence. Independence from law enforcement agencies will reflect more integrity and objectivity. The public will be ensured that the laboratories function towards the fulfilling the demands of science rather than that of law. In turn, this will also restore public trust in police agencies as they would not be responsible for the erroneous acts in the laboratories.

Amidst the entire laboratory crisis, as aforementioned, National Academies of Science recommended independence of laboratories to ensure impartiality and accuracy in testing and analysis. Houston took a positive step and established an independent crime laboratory in 2014. Other countries including India, should be equally progressive.

VII. INTERFERENCE OF LAW ENFORCEMENT AGENCIES

Forensic laboratories are considered as a strong source of proving guilt or leading towards the guilty, to say the least, with the aid of science and technology. However, one may notice that

¹² *Id.*

¹³ John Terzano, *Crime Labs Need Independence and Robust Oversight to Ensure Justice*, HUFFPOST, (Dec 6, 2010) https://www.huffpost.com/entry/crime-labs-need-independence_b_534461.

William P. McAndrew, *Is Privatization Inevitable for Forensic Science Laboratories?*, FORENSIC SCIENCE POLICY & MANAGEMENT: AN INTERNATIONAL JOURNAL, 3:1, 42-52, (2012).

Manasi Pareshe Kumar, *Why forensics isn't leading to convictions in rape cases*, BENGALURU CITIZEN MATTERS (Jan 21, 2020) <http://bengaluru.citizenmatters.in/rape-cases-investigation-forensic-evidence-collection-lab-reports-40071>.

79% of all laboratories are situated within the law enforcement agencies and 57% of such laboratories would only examine and study evidence as submitted by such officials of the agencies.¹⁴ This survey among many others, points towards an evident control of the public officials over the forensic analysts.

(A) Bias

Bias means prejudice in favour or against a specific object. While considering the forensic science, the scope of bias has been briefly classified as motivational and cognitive bias.¹⁵

1. Motivational bias

Motivational bias is a generally conscious tendency to favour a particular party, for furtherance of self-serving or personal motivations. A scientist who is associated or works under a prosecutor might be influenced by such relationship.¹⁶ One such example of the analyst getting swayed by the prosecutor's office is the well known cases of Fred Zain at West Virginia state crime laboratory.¹⁷ Yet another case which can be cited is that of the Joyce Gilchrist at City Crime Laboratory, who helped the prosecution in getting hold of evidence in their favour and held back evidence which did not support their cause.¹⁸

2. Cognitive bias

When one speaks of cognitive bias, it is a more unconscious level, cognitive bias occurs when people tend to see what they expect to see. This distortion of a person's perception or thought process can affect decision-making, having an influence on the findings of a forensic expert. The cognitive bias comes in several forms.¹⁹

¹⁴ Joseph L. Peterson, *The Capabilities, Uses, and Effects of the Nations' Criminalistic Laboratories*, 30 J. FORENSIC SCI. 10, 11 (1985).

¹⁵ Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

¹⁶ *Bias and Ethics*, FORENSICS, http://www.forensicbasics.org/?page_id=508#.XnIBuGgzbSE (last visited Mar. 18, 2020).

Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

¹⁷ *In re Investigation of the W.Va. State Police Crime Lab., Serology Div.*, 438 S.E.2d 501.

¹⁸ Martha Bryson Hodel, *W. Virginia to begin trial for chemist Case resembles Gilchrist inquiry in Oklahoma* THE OKLAHOMA (September 4, 2001), <https://oklahoman.com/article/2753995/w-virginia-to-begin-trial-for-chemist-case-resembles-gilchrist-inquiry-in-oklahoma>
Mitchell v. Gibson, 262 F.3d 1036 (10th Cir. 2001).

¹⁹ *Cognitive Bias Effects*, THE FORENSIC SCIENCE REGULATOR, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510147/217_FSR-G-217_Cognitive_bias_appendix.pdf (last visited at Mar. 18, 2020).

Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* Utah Law Review, Forthcoming, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

a) Role-effect

There is a common tendency to showcase certain behaviour with an intention to garner support of a particular social group, especially for assimilation at work places. This is often referred to as the reference group phenomena. Therefore, while talking about forensic scientists who might try to identify with the prosecution, one can bring in doubt regarding the accuracy of the results of the laboratories.²⁰ In other words, role effect occurs when the analysts tend to support either of the parties i.e. prosecution or defence, within the adversarial system of justice. When there is a doubt regarding the result, this subconscious bias casts a shadow on the decisions of one.²¹ For instance, in case of fibre examination, when two items of textile are studied and either of them are not found matching, thereby if cognitive bias creeps in, then the scientist may conclude that the findings as neutral rather than analysing the fact in light of the fact that there might be absence of contact altogether, so as to favour the prosecution.²²

b) Contextual

The cognitive type of bias wherein the extraneous information apart from what is being considered affects the results. This mainly occurs in ambiguous cases.²³ For instance, the scientist may be influenced by the background information that the police has a few suspects in mind or has given confession. This serving of information to the scientist is not required and leads to psychological contamination or such like phenomena. In view of this, blinding precautions or debiasing techniques are practiced as a counter measure against such bias.²⁴

Due to this bias, the results are plagued with inaccurate or improperly prepared laboratory reports, insufficient records and management, inadequate techniques to solve cases, false testimony etc.²⁵ This was also expressed by the FBI in its report in 1997. It was also stated that the analysts in Oklahoma City bombing case concluded on the basis of bias which tilted

²⁰ Michael J. Saks & Richard Van Duizend, *The Use Of Scientific Evidence In Litigation* 53 (1983)

²¹ Risinger, *supra* note 9, at 18-19.

²² *Cognitive Bias Effects*, THE FORENSIC SCIENCE REGULATOR, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510147/217_FSR-G-217_Cognitive_bias_appendix.pdf (last visited at Mar. 18, 2020).

²³ *Id.*

Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

²⁴ *Id.*

Cognitive Bias Effects, THE FORENSIC SCIENCE REGULATOR, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510147/217_FSR-G-217_Cognitive_bias_appendix.pdf (last visited at Mar. 18, 2020).

²⁵ *Id.*

in such a way as to incriminate the defendants.²⁶

(c) Reconstructive Effects

One says that such a type of effect has taken place when one relies on memory instead of taking contemporaneous notes.²⁷ Thus, as one takes aid of memory singularly, the gaps are filled in by supposition. Undoubtedly, contemporaneous documentation is essential to document the work done for each evidentiary material. As a result, the analysts and their personnel may be required to fulfil the protocol requirements and document by relying on their memory and putting forth hypothesis whereby the memory is blurred.²⁸

d) Confirmation bias

This type of bias occurs when an individual has pre conceived notions and revolves around such beliefs thereby validating and stressing upon the evidence which corroborates such a belief and ignore the evidence which rejects or discards such a belief. One might get astonished, that, too often than not, this type of bias influences the scientists too. Their credulity and objectivity may come under serious doubts.²⁹ There are myriad cases which display how this bias has affected the results. One may cite the famous 2004 Madrid train bombings, wherein the three FBI fingerprint experts concluded that the latent print found on the bag containing detonating devices was that of Brandon Mayfield. The extraneous information of this man was that he was an American Muslim attorney in Oregon. It was later found after a period of 17 days that the man was falsely implicated and on review on this matter, it was concluded that there was confirmation bias which led to such a misidentification. The confirmation bias has made the analysts made them look at the similarities which were indeed not there.³⁰

One rather terrifying instance can be that of Wagenaar and colleagues, who look for common factors to solve the cases. On locating of such a factor, a suspect was identified on that basis and the police carried out investigation centering such a suspect, prematurely assuming that

²⁶ Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

²⁷ *Cognitive Bias Effects*, THE FORENSIC SCIENCE REGULATOR, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510147/217_FSR-G-217_Cognitive_bias_appendix.pdf (last visited at Mar. 18, 2020).
Risinger, *supra* note 9, at 15-16.

²⁸ *Forensic science: why no research?*, THE FREE LIBRARY <https://www.thefreelibrary.com/Forensic+science%3A+why+no+research%3F-a0250885611> (last visited at Mar. 18, 2020).

²⁹ *Id.*

³⁰ Sara Kershaw, *Spain and U.S. at Odds on Mistaken Terror Arrest*, N.Y. TIMES, (June 5, 2004).

Jeff Kukucka, *Forensic Confirmation Bias: When the Evidence Doesn't Speak for Itself*, HUFFPOST, (April 29, 2013) https://www.huffpost.com/entry/forensic-evidence_b_3178848.

he is guilty. In other words, the officials worked for confirming the hypothesis. This is also termed as suspect-driven investigation. The more ideal way of dealing with such matters should be offence-driven investigation, whereby the information helps solve the case and not the other way around. Wagenaar and colleagues followed such a practice for a decade or more and thereby proves the point of contention that how bias can disturb the entire judicial system at the expense of the innocent.³¹

(B) Variance of interests between the scientific and legal communities

In the preceding paragraphs, we discussed about the confirmation bias which can reiterated as a form of cognitive bias which confirms to a certain preposition rather than verifying and looking at it objectively.³² It would seem that there are safeguards in place that would aid in the detection and prevention of the negative effects of bias. The problem with that argument, however, is that biased testing occurs mostly unconsciously and unintentionally.³³ There are numerous reasons why either of the profession is not readily addressing the bias without gains for structural change.

The attorneys and forensic analyst conform to such a bias based on their diverse goals and objectives. There is rather a disparity between both the professions, as analysts are motivated to describe their results objectively, lawyers have an obligation to zealously advocate for their clients.

Furthermore, one can highly doubt that the lawyer will try to eliminate the bias, if such a bias will help him win his case. Moreover, due to the affiliation with the state, there is also an obvious tendency of the law enforcement agencies to put the prosecution in good light and support its causes. Thus, the interests of the prosecutors backed by the law enforcement agencies naturally supersede and control the laboratories.³⁴ One more point to be taken into account is that the lawyers are not quite equipped with the knowledge and expertise to deal with forensic science and its limitations.³⁵ Drug reports as a matter of fact only consist of a single sentence demonstrating that the substance is present or absent and makes no mention

³¹ Lidén, M., *Confirmation Bias in Criminal Cases*, 284, UPPSALA: DEPARTMENT OF LAW, UPPSALA UNIVERSITY (2018) available at <https://www.diva-portal.org/smash/get/diva2:1237959/FULLTEXT01.pdf>

³² Dror et al., *Contextual Information Renders Experts Vulnerable to Making Erroneous Identifications*, 156 FORENSIC SCI. INT'L 74, 74 (2006).

³³ Edward J. Ungvarsky, *Remarks on the Use and Misuse of Forensic Science to Lead to False Convictions*, 41 NEW ENG. L. REV. 609, 618 (2007).

³⁴ John Rafael Peña Perez, *Confronting the Forensic Confirmation Bias*, 33 YALE LAW & POLICY REVIEW 462, 457-473 (2015).

³⁵ *Id.*

of likelihood of errors.³⁶ Such examples demonstrate that, there is no mechanism in place in order to help the lawyers appreciate the forensic evidence, effects of confirmation bias, their limitations, possibility of errors etc.³⁷

It is pertinent to bring one more point of contention to the table, which revolves around the number of pending cases, that is progressively increasing by the day and the forensic analysts are not equipped with the technology or capacity to fully deal with them, let alone, ward bias from their findings. These analysts lack the incentive too. Till December 31, 2017, the Central Forensic Science Laboratory and Forensic Science Laboratories had a total backlog of 13,108 cases. Thus, there is a huge gap between the demand and supply of these services. For removal of this bias, cross examining the analysts by the defence attorney or such like actions with respect to their testing and analysis is also made necessary.³⁸ This burdensome mechanism was also emphasized in *Melendez-Diaz* and *Bullcoming* wherein testimony and cross examination of such analysts was upheld.³⁹

These abovementioned reasons make it difficult for the meeting of the minds of the lawyers and analysts on common ground for structural changes in the system.

VIII. DRAWBACKS FOR AN INDEPENDENT SYSTEM OF FORENSIC LABORATORIES

One may encounter a number of drawbacks and criticisms while deliberating on the issue of independent laboratories. Such drawbacks are rather practical in nature, which need to be taken into account to have a holistic view regarding the subject matter at hand. These arguments against independent system include integration with police investigative function, funding, efficacy of reform and practicability.⁴⁰

There have been contentions that the geographical or organizational distance or detachment can prove be a restriction in the investigation process and hence, should be amply integrated with the police functions. Due to practical issues, it can also be argued that the laboratories may not be able to stand as an autonomous unit. Funding issues will be one of the most important drawbacks. Taking into account the diversity of the types of forensic science laboratories, the structure of such organization is prominent bone of contention. Last but the most important argument is whether such laboratories will solve the issue at hand. There will

³⁶ Sara Kershaw, *Spain and U.S. at Odds on Mistaken Terror Arrest*, N.Y. TIMES, June 5, 2004.

³⁷ *Id.*

³⁸ *Marshall v. People*, 309 P.3d 9

³⁹ *Bullcoming v. New Mexico*, 131 S. Ct. 2705, 2728 (2011).

⁴⁰ Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

be chances of police and prosecution control nonetheless.⁴¹ However, there is a wide difference between working with a person and working under him as a subordinate.

IX. RECOMMENDATIONS/SUGGESTIONS: PROPOSAL FOR BRIDGING THE GAP

(A) Instrumental changes in the Structure of Forensic Laboratories

1. Sufficient autonomy

In light of the above deliberation, one can easily sense the friction between the forensic science laboratories and law enforcement agencies, resulting in hampering the criminal justice system as a whole. Therefore, the researcher proposes the independence of the forensic science laboratories in the organizational structure and reporting lines such that the laboratory would be in the capacity to take its own decisions regarding the cases, funding and other such matters.⁴² The proposal of the researcher envisages granting the forensic science laboratories with such autonomy such that, it will further the fundamental intention for which such forensic science laboratories were created which is, to objectively study and analyse the evidence.

Therefore, recommendations also circumscribe budgetary control so as to facilitate better results, without any administrative dependence on law enforcement agencies. Being under the control of such agencies, the budget of such laboratories would have to compete with the budget of many other concerns, thereby compromising on the needs of the laboratories.⁴³

However, although the laboratories should be granted independence, there should be checks and balances for working of the same. Therefore, the researcher recommends establishing an independent oversight commission to supervise the working of the laboratories. This will help keep a check on the laboratories which will in turn ensure the appointment of certified and trained professionals and operation as per standard procedure thereby maintaining records and quality of work performed as required. This independent commission should be responsible to oversee the overall functioning of the laboratory and thus, it should participate in putting forth safeguards to ward out any iota of bias and thus, guarantee objectivity and credibility of the testing and analysis.⁴⁴

The Government should take affirmative steps to boost the growth of private forensic

⁴¹ *Id.*

⁴² Paul C Giannelli, *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias*, 2 UTAH REVIEW Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at SSRN: <https://ssrn.com/abstract=1568915>

⁴³ *Id.*

⁴⁴ Lidén, M. *Confirmation Bias in Criminal Cases*. 284 pp. UPPSALA: DEPARTMENT OF LAW, UPPSALA UNIVERSITY. ISBN 978-91-506-2720-6 (2018).

laboratories in order to reinvent the field of forensic science and as a matter of fact, bring in healthy competition for better quality of services and instilling public trust.

To conclude, the structure and reporting lines should be such that the laboratory works to fulfil the demands of science and not the demands of law enforcement.

2. Case studies

- *Commission on Forensic Science in New York*

A perfect example of an Independent Forensic Laboratory Department can be taken from the New York Statue that established a Commission on Forensic Science which is authorized to (1) develop minimum standards and a program of accreditation for all state laboratories, (2) establish minimum qualifications for laboratory directors and other personnel, and finally (3) approve forensic laboratories for the performance of specific forensic methodologies.⁴⁵

- *Truth Laboratories*

The concept of Truth Laboratories formed grounds roughly more than a decade back with the sheer determination of Dr KPC Gandhi. He initially tried to introduce Crime Stoppers, a US based project which was basically, regular citizens rendering anonymous information about potential criminal activity. Thereafter, in 2007, he established Truth Labs, which is the first independent laboratory in India. It has a success rate of 90% and they render services to private individuals, government, judiciary and other agencies alike.⁴⁶

The cases dealt by such Truth Labs include Fingerprint Analysis, DNA Profiling cases, cases dealing with Polygraph test, cases of Medico-Legal, cases of Failure Analysis etc. Such Truth Labs consist highly qualified individuals such as former Central and State government directors, heads of departments etc. These reports and their testimony are admissible in courts. Further, it submits reports in 15 days and most of the cases are done and dusted within a period of 1 year.⁴⁷

It has successfully dealt with cases such unravelling the doctored videos sent by the Delhi police in the JNU students case. There are other instances of DNA fingerprinting work done by Truth Labs to prevent a communal riot from breaking out. This proves the point of the

⁴⁵ Michael J. Saks et al., *Model Prevention and Remedy of Erroneous Convictions Act*, 33 ARIZ. ST. L.J. 665, 698–703 (2001)

⁴⁶ Srinivas M, *Hyderabad-based forensic laboratory helping 'truth' prevail* TELAGANA TODAY (9th Nov 2019) <https://telanganatoday.com/hyderabad-based-forensic-laboratory-helping-truth-prevail>

⁴⁷ Rinchen Norbu Wangchuk, *Meet The Andhra Pioneer Behind India's 1st Independent Forensic Investigation Lab*, The Bitter India, (November 1, 2019) <https://www.thebetterindia.com/163531/kpc-gandhi-truth-labs-forensic-andhra/>

effectiveness of independence of crime laboratories from law enforcement agencies.⁴⁸

X. MEANS AND METHODS TO WARD OUT BIAS

Moreover, as discussed earlier regarding the contention of bias especially confirmation bias which is caused unintentionally umpteen times. The analysts are generally ignorant of the effect of such a bias or psychological suggestion on the testing and analysis.⁴⁹ Conscious knowledge may not be a sufficient safeguard but it will surely help a tool or a method for prevention as this knowledge will rightfully help in introducing techniques and methods to contribute for the removal of bias.

The researcher recommends introduction of debiasing techniques to promote reviews of analysis routines and maintenance in order to remove any sort of bias plaguing the justice process. One such form of technique is blind verification, which will target the elimination of confirmation bias and also limit contextual bias in the examination process. The analysts should not be exposed to extraneous information which will disturb their results of the laboratory.

The researcher also recommends that the work should be conducted in a rather linear manner than circular manner. In other words, the evidentiary material from the crime scene should be studied before carrying out comparison with the sample of a suspect. This will ensure a detailed examination and thus, it will help remove psychological suggestion as the analyst would carry out an initial examination of the sample from the crime scene and would only use the sample of the suspect at a later stage to compare the similarities. Although there are counter arguments that bias may creep in this process sooner or later, it is nonetheless a valuable check to ensure quality standards of the results.

Furthermore, double-blind procedures as an extension to blind verification can be introduced. Basically, this procedure involves in testing and verifying the conclusion of the examiner or the analyst. This verifier should not be aware of decision of the first examiner and both these parties i.e. verifier and first examiner should preferably not be aware of each other, as a matter of best practices. As we are aware of the incorrect and inaccurate decisions of the analysts, this procedure will help get second opinions, reviews regarding a decision and further the process of elimination of bias. This technique has been successful in many cases, one of the most famous being that of Canadian child pathologist Dr. Charles Randal Smith, whose incorrect decisions of implicating a number of custodians for child murder was

⁴⁸ *Id.*

⁴⁹ Comm. on Identifying the Needs of the Forensic Sci. Cmty., *Strengthening Forensic Science in the United States: A Path Forward* 184-185 (2009)

rectified by the means of second opinion of the verifier.⁵⁰

The researcher also recommends kick off structural amends in the working of the lawyers and analysts to ensure removal of any form of bias. Burdensome and formalistic interpretation should be abandoned in favour of the approach to provide lawyers and analysts with greater flexibility.⁵¹ The lawyers and analysts should play an active role to get rid of confirmation bias. This will help deal with unreliable evidence in a more efficient and systematic way than a cross examination, which deviates from the point of question at most times. This will also in turn reduce workload. Further, courts should be allowed to exclude entire forensic reports, no matter how crucial to the case, if the analyst who conducted the test is unavailable for whatever reason.⁵²

XI. CONCLUSION

India is a vast country with limited knowledge of the effective and efficient use of resources available. Although scientific proof forms an essential asset in most criminal prosecution, however, it is not given the pedestal it ought to be given by the police, prosecution and judiciary. In amidst of all this, the common man suffers in the prevailing justice system as he is not assured that he can move court and get hold of justice. The delayed trials, inadequate or inaccurate testimonies, wrongful convictions etc. are some of the many reasons why situation is getting out of hands. A number of times, there is a mere lip service given to truth.⁵³

Therefore, based on the above discussion, the researcher concludes that independent laboratories are good for laboratories themselves, for better law enforcement and most importantly, for inculcating public confidence. However, one may question the viability and practicality of this independence as there are defensible practical reasons for maintaining forensic services within police organisations. It cannot be termed as a straitjacket formula for all the issues and concerns faced as counter arguments suggest that problems regarding political feasibility, possibility of error and misconduct etc. will naturally arise. Some might also argue that there is a need to go beyond the structural issues and focus on the cultural and systemic issues.⁵⁴

⁵⁰ State v. Brewington, 743 S.E.2d 626, 627 (N.C. 2013)

⁵¹ Bullcoming v. New Mexico, 131 S. Ct. 2705, 2728 (2011).

Marshall v. People, 309 P.3d 9

⁵² Ben Conery, *Court's Aid to Defendants Snarls Crime Lab*, WASH. TIMES, Aug. 31, 2009, available at <http://www.washingtontimes.com/news/2009/aug31/states-vie-for-lab-techs-in-court>.

⁵³ JBS Umanadh, *Truth Labs helps the common man*, DECCAN HERALD (Sept. 4, 2016), <https://www.deccanherald.com/content/568544/truth-labs-helps-common-man.html>

⁵⁴ Giannelli, Paul C., *Independent Crime Laboratories: The Problem of Motivational and Cognitive Bias* UTAH LAW REVIEW, FORTHCOMING, Case Legal Studies Research Paper No. 2010-8 (March 11, 2010) available at

The real motive is to gain impartiality and transparency at every stage of working. Therefore, as long as this purpose is satisfied and the laboratories are providing effective services in an efficient manner, the organizational structure is not a matter of concern. Independence of the laboratories which are sufficiently funded, backed by proper staff members, independent commission for oversight, proper facilities for quality control and accreditation can only be termed as some of the measures to meet the ends of justice.

As a result, there is no simple answer to the question whether the forensic science laboratory rather forensic science in general, should free of policing agencies. Therefore, although there are a lot of disadvantages cited against the independence of such laboratories, it is aptly closer to the ultimate goal of an objective, scientifically motivated laboratory, rendering accurate and quality results.⁵⁵ Hence, though it believed that state regulation is an inevitable and necessary evil, there can be a middle path by establishing a strong professional body, which can help further the strengthening of the forensic science regime in toto.

SSRN: <https://ssrn.com/abstract=1568915>.

⁵⁵ Jennifer Laurin, *Commentary: Why it's time for an independent crime lab*, THE STATESMAN <https://www.statesman.com/news/20171003/commentary-why-its-time-for-an-independent-crime-lab-in-austin> in Austin (Oct 3, 2017).

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