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CRITICAL ANALYSIS OF FINGERPRINT EVIDENCE

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Abstract: The article majorly focuses on the critical analysis of the fingerprint evidence. Fingerprint evidence has been accepted as a very reliable and conclusive form of evidence. The article would deal with the evolution of fingerprint evidence in India and then the legal aspect and law regulating the fingerprint evidence shall be covered. The article would then analyze whether fingerprint evidence is against the fundamental right of a person that is enshrined under Articles 20(3) and 21 of the Indian Constitution. Then, the article shall examine the reliability of fingerprint evidence as to in what circumstances a judgment can be passed solely relying on the fingerprint evidence. The article would focus on the individualization fallacy involved in the fingerprint analysis. Major challenges in the evidentiary value of fingerprint would be analyzed which would provide conclusive justification as to why fingerprint evidence should not be considered as gold standard evidence. In last the article would critically analyze fingerprint evidence in India. The main aim of the article is that analysis should be done keeping in mind all such loopholes and places of error in mind so that they can be avoided. As there have been cases where innocents had to suffer because of faulty and erroneous analysis of fingerprints. All these fallacies attached to the fingerprint evidence should be kept in mind by the judges while making judgments so that there is no miscarriage of justice.

INTRODUCTION

A common form of evidence that may be detected and collected by investigators at any crime scene is impression and pattern evidence. Impression evidence is formed whenever two different objects come into contact with one another with enough force that causes an impression. Such impressions can be two-dimensional like fingerprints or three-dimensional-like marks on a bullet due to the barrel of a firearm. The fingerprint evidence is a very crucial type of pattern and impression evidence and it helps link a suspect to a particular crime scene through improved techniques of identifying, analyzing, collecting, and preserving.¹

Fingerprints have been accepted and recognized widely as reliable evidence for the identification of any person. When any object is touched, a repercussion of the friction ridge arrangements of a fingerprint may be left on the object which is used for personal identification during any criminal investigation.² The fingerprint is accepted worldwide widely and has been considered a reliable form of evidence. The research paper shall focus on the journey of fingerprints in India. The law regulating the fingerprint and legal aspects shall be determined. The major challenges that are faced by the fingerprint evidence under Article 20(3) and Article 21 of the Indian Constitution shall be dealt with. The research paper would majorly focus on the challenges of fingerprint evidence and critical analysis of fingerprint evidence in India. As the reliability of evidence can be seen increasing at the time of deciding a case without keeping the chances of error that may take place at any stage of analysis and blindly following the evidence may defeat the purpose of forensic law.

The main research questions of the research paper are:

- 1. Whether there is any law regulating fingerprint evidence?
- 2. Whether fingerprint evidence is against the right of self-incrimination?
- 3. Whether fingerprint evidence is a reliable form of evidence or not?
- 4. Whether fingerprint evidence is error-free?
- 5. Whether there are any challenges of fingerprint evidence in India?

¹ Overview of Impression and Pattern Evidence, NATIONAL INSTITUTE OF JUSTICE (July 8, 2016), https://nij.ojp.gov/topics/articles/overview-impression-and-pattern-evidence.

² Palash Kumar Bose & Md. Jubaidul Kabir, *Fingerprint: A Unique and Reliable Method for Identification*, 7 J. OF ENAM MED. C. 29 (2016).

FINGERPRINTS: AS FORENSIC EVIDENCE

Fingerprints are the most encountered type of evidence that is recovered and found on the crime scene. The oil, sweat, grease, or any other foreign substances are present on the hands and fingers and they adhere to the ridges which are raised portions, and whenever any object has touched a recording of such ridges is left on that object. It is to be noted that by merely touching an object fingerprints are not deposited as for fragmentary fingerprint several conditions should be met for such deposition which is as follows:

- a. <u>Cleanliness:</u> when hands are cleaned natural oil and perspiration are removed and the possibility of leaving a latent print is limited but as soon as hands come in contact, hair oils from these areas get transferred which would be an agent for transferring the medium for such latent fingerprints.
- b. The method by which an object is handled: the pressure and firmness which is exerted on the object affect the quality of latent impression.
- c. The method by which an object is released: how any object is released affects the impression for instance ridges are destroyed when fingers are slide over the object's surface as the latent prints get smudged and become nonusable for identification.
- d. <u>Suitability of the object on which prints are deposited:</u> texture and type of the object on which prints are deposited are also very important for instance, smooth surfaces are very conducive for securing latent impressions.³

LEGISLATIVE EVOLUTION OF FINGERPRINT

Finger impression has been added in the present legislation by Act 5 of 1899 after the decision of *Queen Empress V. Fakir Md. Sheikh*, and by Calcutta High Court in which it was held that only court can compare finger impression and opinion of the court was not admissible under section 45 of Indian Evidence Act, 1872 but later in the case of *R V. Sahdeo* it was held that expert evidence can be given under section 45 of the act and Act 5 of 1899 also undergone amendment through the case law. In the case of *Ahmed Reshi V. State*, it was held that a fingerprint can only be reliable when it is compared with admitted finger impression and expert opinion is necessary for the same.

³William J. Collier, *City of Phoenix Physic Evidence Manual*, Phoenix Police Department Crime Detection Laboratory (1999), https://www.lkouniv.ac.in/site/writereaddata/siteContent/202004131508038050gaurav_mishra_anthro_Physical_evidence.pdf.

⁴ Queen Empress V. Fakir Md. Sheikh, (1898) ILR 25 Cal 230.

⁵Ahmed Reshi V. State & Ors., A.I.R. 2008 J&K 5 (6).

LEGAL ASPECT AND LAW REGULATING FINGERPRINT EVIDENCE

Under the Indian Evidence Act, 1872, police or investing officer under any departmental procedure shall take fingerprint impressions and sent such to the forensic bureau for analysis. Fingerprints are taken of deceased for identification and fingerprint of the suspect is taken to match it with the prints found at the crime scene and it is also used for comparing impression of any disputed document.

<u>Section 3</u> of the identification of Prisoners Act, 1920⁶ provides that the Investigative officer has the power under which he can take the fingerprint of a person who has been convicted with such an offense that is punishable for one year or upward.

Moreover, under <u>section 4</u> of the Identification of Prisoners Act, 1920,⁷ it has been stated that Investigating Officer has been given the power to take fingerprints of any person who is not convicted or convicted for any offense that is punishable for a one-year term or more. <u>Section 5</u> of the Identification of Prisoners Act⁸, also states that investigating officers on the order of the first-class magistrate can ask for fingerprints from any such person who has been arrested for investigation under Cr.Pc.

Furthermore, <u>section 73</u> of the Indian Evidence Act⁹, provides that a Magistrate has the power to take the impressions of any persons for identification, investigation, or of any person who has been arrested and section also states that person refusing the same will be liable for punishment given under <u>section 186</u> of Indian Penal Code¹⁰ and <u>section 6</u> of Identification of Prisoners Act¹¹. <u>Section 45</u> of Evidence Act¹² also states that testimony given by an expert is made admissible before the trial court and any report which is submitted by him would be considered as evidence under <u>section 293</u> of Cr. PC¹³ and it would be considered as evidence without any further examination of such a director. It is also provided in section 155 of the Evidence Act¹⁴ that evidence given by expert can be impeached only in the manner as given under the section.

⁶ Identification of Prisoners Act, 1920, § 3, Acts of Parliament, 1920(India).

⁷ Identification of Prisoners Act, 1920, § 4, Acts of Parliament, 1920(India).

⁸ Identification of Prisoners Act, 1920, § 5, Acts of Parliament, 1920(India).

⁹ Indian Evidence Act, 1872, § 73, Acts of Parliament, 1872(India).

¹⁰ Indian Penal Code, 1860, § 186, Acts of Parliament, 1860(India).

¹¹ Identification of Prisoners Act, 1920, § 6, Acts of Parliament, 1920(India).

¹² Indian Evidence Act, 1872, § 45, Acts of Parliament, 1872(India).

¹³ Criminal Procedure Code, 1973, § 293, Acts of Parliament, 1973(India).

¹⁴ Indian Evidence Act, 1872, § 155, Acts of Parliament, 1872(India).

In the case of <u>Giriraj Singh Gaghela v. State of Andhra Pradesh</u>¹⁵ & <u>Shakariya v. state of Rajasthan¹⁶</u>, it was held that police can take fingerprints of the accused even without the permission of the Magistrate in cases where an investigation is pending.

FINGERPRINTS AND RIGHT AGAINST SELF INCRIMINATION

Fingerprint evidence has been challenged several times under Article 20(3) and Article 21 of the Indian Constitution. Even in the case of <u>State of Bombay v. Kathi Kalu¹⁷</u> the court stated about the dichotomy of the situation where the accused shall be protected from self-incrimination and the purpose of law enforcement should also be fulfilled including the safety and welfare of the public at large. In the case of <u>Thogorani alias</u> <u>K. Damayanti v. State of Orissa¹⁸</u>, it was led down that the court must balance the interest of the public as well as the accused.

It is an established right under Article 20(3) of the Constitution¹⁹ which mentions that no person who is accused shall be compelled to become a witness against himself. The article protected the person not only at the stage of trial but also at the stage of the investigation. But certain scientific methods have been included which are against the right of self-incrimination.²⁰

Right to privacy that has been enshrined in Article 21 of the Indian Constitution²¹. <u>PUCL v. U.O.I</u> defines the right to be fundamental. It further states that the right to privacy is a broad right that is very difficult to define judicially.²² It has been led down through several judgments that the right to privacy is not an absolute right and certain restrictions can be put as per the procedure established by law.

In the case of <u>Ranjit Ram v. State</u>, it was held that when an order has come which directs the accused to furnish fingerprints and if he furnishes fingerprint voluntarily without protesting then Article 20(3) will not stand violated. It is to be noted that Supreme Court held that taking fingerprints against the consent of such a

¹⁵ Giriraj Singh Gaghela v. State of Andhra Pradesh, Cri. Appeal No. 624 of 2006 (2008).

¹⁶ Shakariya v. State of Rajasthan, AIR 1978 SC 1248.

¹⁷ State of Bombay v. Kathi Kalu, AIR 1961 SC 1808

¹⁸ Thogorani alias K. Damayanti v. State of Orissa, AIR 2004 Cri LJ 4003

¹⁹ INDIA CONST.art. 20, cl.3.

²⁰ D'SOUZA MARVIN & KATARIA R.P, FORENSIC SCIENCE IN CRIMINAL TRIAL & INVESTIGATION, (1st ed, 2015).

²¹ INDIA CONST. art. 21.

²² People's Union of Civil Liberties v. Union Of India, AIR 1997 SC 568.

person is also not against the Constitution as giving fingerprints would not amount to be a witness against oneself.²³

In the case of <u>Selvi v. State of Karnataka</u>, Article 20(3) was vastly discussed where a person has been granted the right to speak or remain silent according to his choice whether the testimony later proves to be exculpatory or inculpatory in nature. The question was raised as to whether involuntary administration of such techniques falls within the reasonable restriction of Article 20 and Article 21 which talks about personal liberty. It was held in the case that taking fingerprints with or without permission of such person does not infringe Article 21 which provides that no person shall be deprived of his life or liberty without the procedure established by law. Additionally, it was also stated that crimes are committed against society, and taking fingerprints for finding the accused will not lead to deprivation of personal liberty but it will be considered as a step taken in the interest of the general public and such an act would fall under the exception.²⁴

And when a crime is continuously increasing there is a need for such scientific test during the process of investigation and hence to balance the right of the accused and the safety of the public, some restrictions are added in article 20(3) and Article 21, hence fingerprint evidence will not violate any article of the constitution.²⁵

RELIABILITY OF FINGERPRINTS-

Evidence has a probative value which can make any disputed issue more or less accurate. Fingerprints as evidence may be given after the expert witness gives his testimony and is cross-examined. An expert should have the specialized knowledge on which he generates his opinion. In the end, it depends on the trial court whether expert evidence should be considered as relevant fact or not and the ruling would stand in place until and unless an abuse of justice is shown. The impression deposited may be ignored if it appears that it has been deposited innocently and it is very essential to collect the fingerprint which has been deposited when the crime was committed.²⁶

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²³ Ranjit Ram v. State, A.I.R. 1961 All. 456.

²⁴ Selvi & Ors. v. State of Karnataka, A.I.R. 2010 S.C. 1974.

²⁵ State of Bombay v. Kathi Kalu Oghad, A.I.R. 1961 SC 1808.

²⁶ Ankur Jain, *Fingerprint: A Clash between Evidentiary Value & the Constitution*, CRIMINAL LAW REVIEW (June 26, 2020), https://crlreview.in/fingerprint-a-clash-between-evidentiary-value-the-constitution/.

In the case of <u>Bhaluka Behra v. state</u>, it has been held that a fingerprint is an unforgeable signature so the evidence given by fingerprint experts should be given considerable weight. In the case of <u>Pathumma v. Veerasha</u>, it was held that no two people have the same set of fingerprints even prints of different fingers of the same person differs and when the fingerprints of a person are matched with the fingerprints at the crime scene is conclusive evidence that it belongs to the same person.

The reliability of fingerprint evidence can be tested from the question of whether the accused will be convicted if his fingerprint tallies with the fingerprint found at the crime scene. Even before Independence, Britishers used to give lots of importance to fingerprint evidence. The stand of the court in determining the conviction of a person based on fingerprint evidence can be made clear from the case of *Bazari Hajam v. King Emperor*,²⁷ where the question aroused was whether it would be safe to declare the guilt of the person on the uncorroborated testimony of the fingerprints or not. The court held that a person should not be convicted solely based on fingerprint tally without any corroborative evidence

In the case of <u>Majendran Langeswaran v. State (NCT of Delhi)</u>, the major question was involved whether tally in fingerprints would directly convict the accused or not. The court held that merely matching the fingerprints of the accused does not make him liable for that offense where there is the scope of doubt in the circumstances. When there is no other conclusive evidence or the events are not completed then the conviction cannot be given just based on fingerprint evidence.²⁸

In the case of <u>M.A. Antony v. State of Kerala</u>, it was held that not in every case the conviction would be made on the sole basis of fingerprint evidence. But in the present case evidence of fingerprint was given main reliance. As the facts of the case were such that there was other evidence with the fingerprint on the door like clothes, scalp hair was also recovered and hence there was no doubt in the circumstantial evidence and the accused was convicted beyond doubt.²⁹

It can be conclusively said that fingerprints that are gathered from the crime scene have a very important role to play in establishing the guilt of the accused or for determining the case. In cases where circumstantial evidence does not go in the same direction like fingerprints evidence while determining the guilt, then judgment shouldn't be given by the court solely relying on the fingerprints and only when both circumstantial

²⁷ Bazari Hajam v. King Emperor, AIR 1922 Pat.73:23 Cr. L.J 638.

 $[\]overline{Supra}$ note 12.

²⁹ M.A. Antony v. State of Kerala, AIR 2009 SC 2549.

evidence and fingerprint evidence points towards the same conclusion or when facts are crystal clear then only decision shall be given relying upon the report of fingerprint analysis.

THE INDIVIDUALIZATION FALLACY IN FINGERPRINTS

<u>Mike Silverman</u>, who introduced the first automated fingerprint detection system has claimed that the evidence is prone to human mistakes, partial print, and fake prints and the identification made by it is not as reliable as they are believed.³⁰

Analysis of fingerprints involves two major steps that are fundamental in every analysis. The first step is to compare a questioned item of evidence with the exemplar taken from any source and then make a judgment as to whether they look alike or not. The second step is to come to the meaning of the reported match. The probability is analyzed of the originated and questioned form coming from the same source.³¹

The risk is present at both stages. A most common error in the first step is that the reported match between a known and questioned sample might not match exactly, even though the method in consideration is flawless as an error may arise when the samples have been misplaced or mixed up with other samples. The error associated with the other step is that the reported match was a result of coincidence and not because they came from a common source. The ultimate inferences are affected because of these errors.³²

The procedures and standards that are existing are not providing sufficient protection from faulty conclusions. As there is no objective test to prove it and it is just left to the judgment of the examiner. The expert determines whether two fingerprints are similar enough to conclude that they come from a common source or not. They determine it by using their skill, experience, and training.³³

³⁰ Iv Ivensa & Milos Kitanovic, *Fingerprint is not unique? See why fingerprinting as evidence is not so reliable*, BLASTINGNEWS (Nov 20, 2017 9:57 p.m..), https://us.blastingnews.com/curiosities/2017/11/fingerprint-is-not-unique-see-why-fingerprinting-as-evidence-is-not-so-reliable-002168323.html.

³¹ Michael J. Saks & Jonathan J. Koehler, *The Individualization Fallacy in Forensic Science Evidence*, 61 VAN. L. REV 199, 199-204 (2008).

³² Jonathan J. Koehler et al., *The Random Match Probability (RMP) in DNA Evidence: Irrelevant and Prejudicial*? 35 JURIMETRICS J. 201, 215-16 (1995).

³³ David A. Stoney, *Measurement of Fingerprint Individuality*, in ADVANCES IN FINGERPRINT TECHNOLOGY 327, 329 (Henry C. Lee & Robert E. Gaensslen eds., 2d ed. 2001).

It has been revealed by practices of fingerprint identification that there is no set standard because of which faulty finding takes place from the limited research that is conducted. Sometimes even examiners themselves disagree not only on each other's findings but also on the ability to find similarity in the findings and declaring matches. Researches have pointed out that even experienced criminalist to match the judgment get influenced by extraneous information.

The fingerprints are often considered unique, but it is a fallacy to infer uniqueness only because the profile frequency is very small compared to the available object. The central point of the research is that the individualism that has been attached to the fingerprints only exists in a rhetorical or metaphysical sense as uniqueness has no scientific validity and it is faulty logic that equates infrequency with uniqueness.³⁴

CHALLENGES IN EVIDENTIARY VALUE OF FINGERPRINTS

Defendants rarely challenge the accuracy of fingerprint evidence but there are many undiscovered mistakes as there are many cases where people have been jailed because of fingerprint identification that proved to be wrong.

- Interpretation and Biasness involved in fingerprinting is one of the major flaws in the evidentiary value of fingerprinting is that the whole evidence may be tainted by the examiner through bias and peer pressure. At the stage of interpretation of samples sometimes the laboratory fails in providing the whole report or maybe a certain irrelevant part is added, which increases the probability of creation of biasness and the scope of subjective interpretation can only be removed when the evidence that is used in court is based on science.
- Another fundamental problem with the evidence is the lack of underlying statistical evidence. In many instances, examiners tout the uniqueness and permanence of fingerprints but they often ignore the odds where two people could share a given number of impressions and characteristics of the fingerprint. Like ridges, point matches, spacing of the oil pores. There are a handful of studies that proves that fingerprint as evidence is very troublesome and they show patterns of error.

³⁴ Supra note 22.

• Although everyone has a separate set of fingerprints the real question is that whether the experts can accurately link the prints that they have collected from the crime scene with the right person. It should be noted that fingerprints at crime scenes only contain twenty percent of the fingertip and they are mostly smudged. Experts link the partial fingerprint collected from the crime scene with the whole fingerprint of the suspect. There are no standards that lays down regarding the number of points that should match and it is determined at each lab and by each examiner differently.

- Other disadvantages of fingerprint recognition can be system failures as the scanners are subject to errors and technical failures caused because of environmental factors, power outages, and many other factors. Although the process of fingerprint examination is cost-effective it is not true for a smaller organization as it can still be a barrier and other problem attached to it can be exclusions as although it is true that fingerprints remain intact and never changes but a big section of the population are excluded from its examination, for instance, old people who were engaged in manual work or people who have suffered the loss of hands or fingers.³⁵
- There is also negligence on the part of the Investigative officer as CBI has issued its guidelines for the forensic experts for assisting the investigative agencies. And all the guidelines would turn futile if an investigative agency is not careful enough while collecting the forensic evidence as major decision are taken by the investigative agency in determining which forensic evidences are of probable value or not. Investigative Agency has a very important role in the collection of fingerprints and ay incompetency would directly lead to miscarriage of justice.³⁶

The same thing happened in the case of <u>Avyappan v. State of Kerala</u>, where police official was irresponsible due to which fingerprints were not properly lifted from the crime scene. Moreover, the expert was unable to justify the reasons behind the inferences and conclusions made.³⁷ In the case of <u>State</u> <u>of Guirat v. Dinesh Bhai & Others</u>, major negligence was shown on the part of investigating officers to the extent that all the evidence tampered which led to the closure of the case, and the accused remained unpunished.

³⁵ Advantages and Disadvantages of Fingerprint Recognition, NEC (Sep 24, 2019), https://www.nec.co.nz/market-leadership/publications-media/advantages-and-disadvantages-of-fingerprint-recognition/.

³⁶TECHNICAL WORKING GROUP ON CRIME SCENE INVESTIGATION, CRIME SCENE INVESTIGATION: A GUIDE FOR LAW ENFORCEMENT (Jan 2000; ebook).

³⁷ Ayyappan v. State of Kerala, 2005 CrLJ 57 (Ker).

• There is no prescribed standard or specific guidelines regarding the collection of fingerprint evidence that can be adhered to by those officers. Which paves the ways for the inconsistency, negligence, and loopholes which are sufficient enough to fail the whole objective behind the section and justice.

A very prominent case, <u>Madrid Train Bombing Case</u>, also known as Europe's 9/11, could lay down one of the major challenges attached to the evidence of fingerprints. The background of the case is that series of synchronized bombs blasted on a regional train in 2004. The attack was considered as deadliest attack after the second world war in Europe. A Lawyer was falsely implicated in the case after the investigation process. It was found that Mayfield's fingerprint was found on one of the bag of detonators that had a connection with the attack in Madrid. Madrid was arrested and after some weeks Spanish National Police informed that Ouhnane Daoud was the source of the alleged fingerprint and it was then realized that Mayfield's arrest was wrong based on a false analysis of fingerprints. The case is a landmark judgment of erroneous identification because of the fallibility of humans, which led to such serious consequences of the mistake.

Even the office of the Inspector General came up with some major causes of error, one of them that both Mayfield and Daoud had very similar fingerprints, detection of which was quite tough, and the ambiguous and murky details of the fingerprints found on the bag was erroneously believed to have similarity with the fingerprint of Mayfield. Distortions were misinterpreted and limited clarity of the fingerprint that is found on any crime scene had prevented the examiners from accurately deciding and determining on several points.³⁸

The cases showing such erroneous analysis are just the tip of the iceberg. Many cases are there where the innocents have been convicted because of wrong analysis and human error. Studies have shown that there are error rates of about 0.8 % in matching prints. People normally believe that fingerprint evidence is infallible which is a wrong conclusion to make. The case is an example that lays down the conclusion that the zero error in the analysis of fingerprints should not be believed and the most obvious should be acknowledged. The error should be studied and resolved most constructively so that faulty evidence is prevented which has the potential to convict innocent people.³⁹

CRITICAL ANALYSIS OF FINGERPRINTS IN INDIA

³⁸ CENTRAL FINGER PRINT BUREAU, XVIII ALL INDIA CONFERENCE OF DIRECTORS OF FINGERPRINT BUREAUX AT HARYANA POLICE ACADEMY (HPA) (2017), https://ncrb.gov.in/sites/default/files/aibe/Land%20mark%20cases.pdf.

³⁹ Id.

Fingerprints evidence is although very important but it carries certain limitations in the Indian context.

 One of the issues is that Automated Fingerprint Identification System (AFIS) is an online source for fingerprint records but the data mining hardware is not available at all levels for instance police force cannot use it.⁴⁰

- AFIS attaches high cost of digitalization and because of which machines are not installed at every administrative level.⁴¹
- Preservation of fingerprint evidence is another task as there are high chances that the evidentiary value of a fingerprint is affected if it is not handled, preserved, or stored properly.
- Fingerprints cannot be solely relied on as police officers or other persons might imitate the evidence to falsely incriminate the innocent person.⁴²
- Application of fingerprint can be done by fraud as well both in civil and criminal matters. For instance, murder after committing the crime by knife or gun may place the same in the hands of the deceased or any other person to leave a fingerprint impression. It can very possible that the whole crime scene is plotted or planted. The court must be very much cautious while incriminating any person based on sole fingerprint evidence.⁴³
- Another infallibility that can be pointed out is that fingerprints may be lost in cases of wounds, illness, chemical action, accidental action, or superficial burning where the basic characteristics of ridge pattern are destructed. There are many cases in which fingers have burnt and the person had to undergo surgery for recovery as a result of which there is a big chance that fingerprints get changed. And cases in which fingerprints have themselves damaged no reliance should be made on their evidence.⁴⁴

CONCLUSION

Fingerprints are no doubt is considered to be a reliable form of evidence that has contributed a lot in the field of investigation and research. The purpose behind the whole paper was that although the evidentiary value of fingerprint is very high still the major challenges should be kept in mind before coming to any ultimate decision so that there is no miscarriage of justice. There have been cases where innocents had to suffer because

Kunal Basu, *Probative Value of Fingerprint Evidence*, SLIDESHARE (April 4, 2016), http://www.slideshare.net/shantanu_leo/fingerprinting-in-india.

⁴⁰ Supra note 12.

⁴² Louis J. Van Der Meulen, *False Fingerprint: A new Aspect*, 46 THE J. OF CRI LAW, CRIMINOLOGY, AND POL. SCIENCE 122, 122-128, (1955).

⁴³ *Id*.

⁴⁴ 12 Y.H.RAO & Y.R RAO, EXPERT EVIDENCE MEDICAL & NON- MEDICAl, (4th ed., 2010; ebook).

of conviction when the order was solely based on fingerprint evidence. Circumstantial evidence and other proofs must move in the same line with the fingerprint evidence so that the result can be relied upon. The analysis should be done keeping in mind the loopholes and the places of error so that they can be avoided. The challenges point out that fingerprint is not gold-standard evidence and the judgment should be made while considering all the analysis enshrined.

