Evidentiary Value of Fingerprints: 
A Critical Assessment

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Science is progressing by leaps and bounds. Over the years technological advancements have entered in all walks of life. The classical methods of investigations are replaced by novel techniques that are quick, sensitive and more accurate. Criminals are utilizing the technological advancements for commission of crimes. The situation now demands that participants to the criminal justice system be posted with the recent advancements in science and their application in their search for truth.

Every individual has got unique and distinct characteristics. There are even structural differences in each and every part of human body. The concept of personal identity is based on this peculiar feature. Fingerprints are commonly used tools to understand the individuality of a person so as to reveal his or her identity. Usually, no crime can be committed without the aid and assistance of the hands, the prime body part of the person. While committing a crime, the culprit may come into direct contact with the things present in the scene of crime. This leaves the finger impressions there that help prove the identity of the culprit.

Features and Significance of Fingerprints

Fingerprints are formed by the deposit of the perspiration and fatty matter by the sweat glands in the friction skin of hands, allied with any dirt which happens to be on the finger tips1. Fingerprint means the reproduction of the ridge formation on the surface of the outer or nail joint of the finger in whatever manner, whether be reproduced in ink, in blood or by the

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A greasy substance which is emitted by the sweat glands through the outlets which are situated in the summit or top of the ridges.²

The skin, which covers the anterior surface of human hand and planter surface of foot, is different in appearance than the skin, which covers the rest of the body. Fingerprint is the pattern or design formed by the ridges on the side of the first joint of a finger or thumb. The pattern or design is made up of fine lines which is known as ridges and the spaces in between them are known as furrows.³ The ridges form the basis of the science of fingerprints. The presence of ridges enables a person to hold an object.⁴ The ridge characteristics⁵ do not undergo any change in the life of a person and persists till the body is destroyed. The fingerprint science has certain characteristics, which prompt scientists to call it as an exact science.

Permanence

Ridges are considered as permanent features of the human body from birth to death of a person or even thereafter until the body is decomposed. If the ridges are indestructible it means that fingerprints are also indestructible. Various scientists have made investigation into the subject at different times and they all have come to the same conclusion that the general pattern of the ridges remains unchanged throughout the life.⁶ While considering the subject of permanence of the ridges, the effect of the diseases, cuts or any other cause due to manual labour, which can

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4. The study of skin patterning on fingers, palms is named as “Dermatoglyphics”.
5. This dermal carving appears during 12th to 16th week of embryonic developments and their formation gets completed in six months. S.S. Sharma, “Fingerprint Science and its Evidential Significance”, 1995 Cri. L.J. 91 (Jour.)
6. Scientists Francis Galton and Sir William Hershel have proved by means of experiments that there is no change in the patterns of an impression. Supra n.3.
cause destruction, is also to be considered. Skin diseases affect ridges temporarily. After the disease is cured the ridges will regain its normal condition. In case of cuts which leave permanent marks, the relative position of the ridges of the pattern remain unchanged. Thus it can be said that ridges has got permanence and perpetuity.

**Immutability**

For every person, literate or illiterate, thumb impression serves the purpose of a signature. Thumb impressions are an immutable signature that does not change and that cannot be changed under any circumstances.

**Variety**

No two fingerprints of different persons or of different fingers of the same person are alike. This is the fundamental principle that makes the science of fingerprint unique and reliable. Therefore it can be said as one of the most perfect scientific methods of personal identification. The fingerprint science has evolved a variety of classification system. In one of the systems, numbers, letters and other symbols are selected to indicate certain pattern characteristics. The most universal method in India as well as other countries is called ‘Galton – Henry’ system. While examining the path of ridges it can be found that ridges travel in such a way so as to form a particular shape. The traveling method of ridges is known as pattern. There are four main types of patterns - loops, arches, whorls and composite.

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10. In order to trace, the pattern area must be located. Pattern area is an area fixed between two points i.e., delta and core. *Ibid.*
In loops the ridges enter and exist on the same side of the pattern. In arches the ridges run from one side to other with backward recurvature. In whorls at least one ridge must recurve and make a complete circuit around the core and there are two deltas ordinarily. Composites have characteristics of two or more of the pattern.

In the technical analysis of fingerprints three basic factors are to be known. They are Type lines, Cores, and Deltas. The purpose of this classification is simply to provide a method of filing sets of fingerprint so that these sets of fingerprints can be quickly and early located. This system is used in Government Bureaus by which, a set of impressions of the same person are examined for their patterns to which symbols are given. Certain convicted persons are legally bound to give their fingerprints. Each convict gives the impressions of his ten fingers on a card bearing his name, date of conviction and other particulars. This in future help the authorities to match with the impressions taken from the place of occurrence of crime.

Utility

In short, fingerprints are graphic representations of the papillary ridges on the distal phalanges of the fingers of hands. The ridges have

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11. Loops are further divided into ulnar loops and radial loops. The ulnar loop is further subdivided according to the number of ridges which lie between delta and core. Radial loops slant towards the thumb and ulnar loops slant towards the little finger. S.S. Sharma, supra n.5, p.92.

12. Arches are further divided into ordinary and tented arches. Ibid.

13. Type lines are the innermost ridges which bound the pattern area. These ridges run parallel, then diverse or separate and surround the pattern area. Ibid.

14. The core is the ridge formation appearing in the centre of the pattern. In a loop it is the centre of the apex inside ridge of a loop. In a whorl, it is the centre of the innermost core. Ibid.

15. The delta is the point to the right, or the left of an impression at which the ridge branch off in opposite direction. The delta is formed either by the bifurcation of the single ridge or by the divergence of two parallel ridges that had, up to this point, run side by side. Ibid.

16. Identification of Prisoners Act, 1920, Ss. 4 and 5.
different shapes and appear as numerous configurations. They have certain individual details and the combination of a number of details being individual confirms the principle of individuality and thus there could be no chance of being duplicated. Thus fingerprint has become an effective means for personal identification and a well-recognised science which affords a unique service to the law enforcing agencies of the world over.

The important uses of finger impressions are:

1. Authentication of documents made in favour of a party.
2. Identification of criminals from the fingerprint left at the scene of offence.
3. Providing assistance to find habitual offenders by making use of his fingerprint comparison that is already in the records.
4. Maintenance of identity records for service holders and prisoners.
5. Identification of person in a mass disaster.
6. Identification of missing persons.
7. Establishment of identity in kidnapping cases.
8. Detection of bank forgeries
9. Identification of licensing procedures for automobiles, firearms, etc.,

**Historical Overview of Fingerprint Evidence**

During very early ages itself man used to carve on rock the paintings featuring hand. There are a number of references to fingerprints in early literature. The practical uses of fingerprints were found on clay tables that display writings from ancient Assyria and Babylonia. The first people

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18. *Ibid*. 
who were to use fingerprints successfully were the Chinese. They used fingerprints in their daily business and legal enterprises. Early in the 12th century a Chinese author in his work made use of fingerprints in criminal identification. Thus earlyman recognised the uses of fingerprints.

During the Middle Ages in Europe the fingerprints were considered as a sign of one’s act and deed when impressed as seals. Interest in modern fingerprint identification dates back from 1880. Descriptions of the finger ridges by early anatomist like Nehemiah Grew, Marcello Malplighi and J.E. Pukinye showed an awareness of the intricate make up of fingerprint pattern. In 1890 Edward Henry, Inspector General of Police in Bengal simplified and made workable achievement in the field of fingerprinting system. In 1901, the Central Fingerprints Branch was created in England. So by the beginning of 20th century, fingerprints were used in criminal investigations. The Identification Division of the Federal Bureau of Investigation in America was also started in 1924. This division undertook to make Fingerprint Cards for convicted persons for identifying them. Now fingerprint examination is based on the establishment of the points of identity between the two prints. So the issue that arises is that how many ridge characteristics are to be matched in order to come to a conclusion that the same finger printed the two prints. Experts all over the

22. S.S. Sharma, *supra* n.5.
23. Edward Henry, *Classification and Uses of Fingerprints* (1897). This book became the official textbook and his system was accepted in European countries and also in U.S.A. *Supra* n.17 at p. 118.
24. The first murder case in which fingerprint testing played serious role was the *Station Trial* case in 1905. The thumb impression that found in the scene of crime had 11 points of resemblance with the thumb impression of the accused. The court accepted this evidence and the accused was convicted. *Supra* n .21.
world have difference of opinion. Different countries\textsuperscript{25} have developed their own standard in establishing identity of two fingerprints. According to this certain minimum number of points should be common in both the finger impressions. In India the minimum number of matching points, which is to be established, is in between 6-12 points. In Kerala the fingerprint expert is to ascertain 8 points of similarity in the finger impressions, which are compared in order to ascertain its similarity.\textsuperscript{26}

\textbf{Statutory Recognition of Fingerprint Evidence}

\textit{Indian Evidence Act, 1872}

The identification of criminals through fingerprints was the first important break through in the scientific investigation of crime. The importance of fingerprints due to its uniqueness, permanence, universality gave statutory recognition and the legislators held fingerprint evidence as a valid piece of evidence. The Indian Evidence Act, 1872 contains provisions wherein fingerprints are considered as a valid piece of evidence. Section 45\textsuperscript{27} of Indian Evidence Act says that when the court has to form an opinion on a point of law which includes foreign law, science or art, handwriting, finger impression, the opinion of persons skilled in that particular area will be accepted. Originally the term finger impression was not included in the section. The Amendment Act of 1899, added the phrase finger impression. This was the result of the decision of the Calcutta High

\textsuperscript{25} In England the minimum points in order to establish identity is 16, where as in United States of America it varies in between 7-12 points.

\textsuperscript{26} As per the information from the District Crime Records Bureau, Edappally, Ernakulam.

\textsuperscript{27} Section 45 of Indian Evidence Act reads: “when the court has to form an opinion upon a point of foreign law, or of science or art, or as to identity of handwriting (or finger impressions) the opinion upon that point of persons specially skilled in such foreign law, science or art (or in questions as to identity of handwriting) (or finger impressions) are relevant facts. Such persons are called experts.”
Court in *R. v. Fakir*\(^{28}\), wherein it was held that the comparison of thumb impressions must be made by the court itself and that the opinion of an expert was not admissible under Section 45 of Indian Evidence Act.\(^{29}\) So this section says that an expert in fingerprint science can be called by the court to form an opinion.

Another section that included the scope of finger impression is Section 73\(^{30}\) of Indian Evidence Act, 1872. The phrase finger impressions were also added to this section by the Amendment Act of 1899. The section contains two parts. The first part of the section provides for the comparison of signature, writing or finger impression purporting to have been written or made by a person with others admitted or proved to the satisfaction of the court to have been written or made by the same person. Even though the section does not specifically say by whom comparison has to be made, by reading Sections 45 and 73, it can be said the comparison is to be done by an expert. The second part of the section empowers the court to direct any person present in the court to give his specimen writing or finger impression for the purpose of enabling the court to compare it with others alleged to have been written or made by him. Section 73 can be said to be an enabling provision under which the court

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29. *Id.*. p.925.

30. Section 73 of Indian Evidence Act 1872 reads: "In order to ascertain whether a signature, writing or seal is that of the person by whom it purports to have been written or made, any signature, writing or seal admitted or proved to the satisfaction of the court to have been written or made by that person may be compared with the one which is to be proved, although that signature, writing or seal has not been produced or proved for any other purpose. The court may direct any person present in court to write any words or figures for the purpose of enabling the court to compare the words or figures so written with any words or figures alleged to have been written by such person."
may direct any person present in court to give finger impression. While reading Section 73 in the light of Section 45 of Indian Evidence Act, 1872 it is clear that the court can direct an accused appearing before it to give his finger impression to be compared by the fingerprint expert chosen or approved by the court.

Section 9 of the Indian Evidence Act, 1872 also deals with the facts necessary to explain or introduce relevant facts. According to the section there are many incidents, which are not strictly constituted as fact in issue but will be regarded as forming part of it. They may include identity, names, dates, circumstances and relation of parties. Finger impressions are considered as proof of identifying persons. So finger impressions can be taken as a relevant fact when it proves the identity of a person. It has been already established that identity of a combination fixed and typical marks are the strongest evidence of identity of person and such evidence is considered as admissible and also a relevant fact.

**Code of Criminal Procedure, 1973**

The Criminal Procedure Code, 1973 deals with the acceptance in evidence of the report of certain government scientific experts. Section 293 of Criminal Procedure Code provides that any document purporting to be a report under the hand of a government scientific expert for

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31. Section 9 of Indian Evidence Act, 1872 reads: “Facts necessary to explain or introduce a fact in issue or relevant facts, or which support or rebut an inference suggested by a fact in issue or relevant fact, or which establish the identity of any thing or person whose identity is relevant, or fix the time or place at which any fact in issue or relevant fact happened or which show the relation of parties by whom any such fact was transacted, are relevant in so far as they are necessary for this purpose”.

32. Section 293 of the Criminal Procedure Code, 1973 reads:

(1) Any document purporting to be a report under the hand of a Government Scientific expert to whom this section applies, upon any matter or thing duly submitted to him for examination or analysis and report in the course of any proceeding under this code, may be used as evidence in any enquiry or other proceedings under this code.

(f.n. contd. on next page)
examination or analysis and report in the causes of any proceedings under this code, may be used an evidence in any inquiry, trial or other proceedings under this Code”. The report of the Director of the Fingerprint Bureau, which shows that his opinion, based on his observations and which leads to a conclusion is accepted as evidence. This section is intended to save time and avoids needless examination of experts unless the courts find it necessary to examine them or when the accused requests for the examination of such expert. If there is any doubt arising from the report the court can always summon the persons who have made the report. This section has included the report of the Director of Fingerprint Bureau for increasing the importance and also giving statutory recognition to the fingerprint evidence.

Identification of Prisoners Act, 1920

The object of this Act is to provide legal authority for taking of measurements, finger impressions, footprints and photographs of persons convicted or arrested in connection with certain offences. The Act itself recognizes the value of scientific evidence of photographs of finger

(2) The court may, if it thinks fit, summon and examine any such expert as to the subject matter of his report.

(3) Where any such expert is summoned by a court and he is unable to attend personally, he may, unless the court has expressly directed him to appear personally depute any responsible officer working with him to attend the Court, if such officer is conversant with the facts of the case and can satisfactory depose in Court on his behalf.

(4) The section applies to the following government scientific experts namely:-

a. Any Chemical Examiner or Assistant Chemical Examiner to Government;

b. The Chief Inspector of Explosives;

c. The Director of the Fingerprint Bureau;

d. Director, Haffkeine Institute, Bombay;

e. The Director, (Deputy Director or Assistant Director) of a Central Forensic Sience Laboratory or a State Forensic Science Laboratory;

f. The Serologists the Government.
impressions as agents in the detection of crime and the identification of criminals.

Before the enactment of this Act, taking of finger impressions of criminals and suspected criminals is void of legal sanction except as regards registered members of criminal tribes in whose provision exists for taking of finger impression. But this Act has now validated the taking of finger impressions and measurements. Section 3 of the Act says about the taking of measurements. It says that every person who has been convicted of any offence punishable with rigorous imprisonment for a term of one year or upwards shall give his measurements to be taken by a police officer. The term measurements include finger impressions also. The Act also make it compulsory to destroy the measurements on discharge or acquittal by any court. Section 4 of the Act says about taking the measurements of non convicted persons and it says that any person who has been arrested for an offence punishable with rigorous imprisonment for a term of one year or upwards shall allow his measurements to be taken. Under section 5, the magistrate can direct any person to allow his measurements for the purpose of carrying out the investigation.

34. Section 3 of Identification of Prisoners Act, 1920 reads: "Every person who has been:
   a. convicted of any offence punishable with rigorous imprisonment for a term of one year or upwards or of any offence which would render him liable to enhanced punishment on a subsequent conviction or
   b. ordered to give security for his good behaviour under Section 118 of Criminal Procedure Code, 1898, shall if so required, allow his measurements and photograph to be taken by a police officer in the prescribed manner.
35. Section 4 of the Identification of Prisoners Act, 1920 reads "Any person who has been arrested in connection with an offence punishable with rigorous imprisonment for a term of one year or upward shall, if so acquired by a police officer allow his measurements to be taken in the prescribed manner".
36. Section 5 of the Identification of Prisoners Act, 1920 reads "If a magistrate is satisfied that, for the purpose of any investigation or proceeding under (f.n. contd. on next page)
In addition to this Act, the Kerala Habitual Offenders Act, 1960\(^{37}\) contain provisions under which the magistrate or any officer appointed by him could order the finger and palm impressions of any registered offender to be taken.

All these statutes increases the validity of scientific evidence. Now the question is whether these provisions compelling a person to take finger prints amounts to the violation of the fundamental right guaranteed under Article 20(3)\(^{38}\) of the Constitution of India.

**Fingerprints and Right against Self-incrimination**

One of the major issue that relates to fingerprint evidence is that of self incrimination. Whether taking of finger impressions from an accused amounts to self-incrimination has been put to considerable debate. The constitutional prohibition is designed to defend justice and ensure the accused against self created criminal traps. A comparative analysis of the constitutional framework in this regard may be useful.

*U.S.A.*

In USA, if persons suspected or accused of criminal offences submit voluntarily to the taking of their fingerprints for the purpose of comparison with prints found in crime scenes it is not a violation of the privilege against self-incrimination.\(^{39}\) This privilege is not granted even if the accused or

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\(^{37}\) Section 6 of the Kerala Habitual Offenders Act, 1960 reads: “The district magistrate or any officer appointed by him in this behalf may at any time order the finger and palm impressions, foot prints and photographs of any registered offender and be taken”.

\(^{38}\) Art. 20(3) of the Constitution of India reads: “No person accused of any offence shall be compelled to be a witness against himself”.

suspected is unaware that the fingerprints are to be used as evidence against him. But in People v. Sallow, a statute provided that no person convicted of disorderly conduct shall be sentenced until the fingerprint records are officially searched. The court ordered that fingerprints be taken from the defendant. The accused questioned this order and claimed that his right against self-incrimination is violated. The appellate court held that the taking of fingerprints is not a violation of the constitutional privilege. The reasons given by the court is that the requirement of taking fingerprints is for the purpose of making proof of identification. They are only steps to exhibit the fingers of the hands and to permit a record of their impressions. The requirement that defendants’ fingerprints are to be taken cannot give the danger that he will be required to give false testimony, and also they are not objectionable in principle. So it can be concluded that taking of fingerprints does not constitute a violation of the privilege against self-incrimination and they are excluded from the scope of the privilege.

In England, there are statutory provisions which enables the taking of finger impressions. In Police and Criminal Evidence Act, 1984, Section 27 says that a constable may at anytime not later than one month after

40. Ibid.
42. 27 Yale L.J.412 (1918).
43. Police and Criminal Evidence Act, 1984. S. 27 reads:

“If a person -
(a) Has been convicted of a recordable offence.
(b) Has not at any time been in police detention for the offence, and
(c) Has not had his finger prints taken-
   (i) in the course of the investigation of the offence by the police, or
   (ii) since the conviction, any constable may at any time not later than one month after the date of the conviction require him to attend a police station in order that his finger prints may be taken.
the date of conviction, be able to require a person to attend a police station in order that his fingerprints are taken. This section applies only when certain conditions are fulfilled. The fingerprints of a person should be taken only with appropriate consent, and the consent to the taking of a person's fingerprints must be in writing if it is given at a time when he is at a police station. The fingerprints of a person detained in the police station may be taken without the appropriate consent if an officer of at least the rank of Superintendent authorises them to be taken, or if he has been charged with a recordable offence or informed that he will be reported for such an offence and he has not had his fingerprints taken in the course of the investigation of the offence by the police. If he is detained at a police station when the fingerprints are taken, the reason for taking them shall be recorded on his custody records.

Section 63A of the Police and Criminal Evidence Act, 1984 permits fingerprints or samples or information derived from samples to be taken under any power conferred by Part V of the Police and Criminal Evidence Act, 1984 from a person who had been arrested on suspicion of being involved in a recordable offence to be checked against other fingerprints or samples or the information derived from other samples held by or on behalf of the police or held in connection with or as a result of an investigation of an offence.

Section 64 speaks about the destruction of fingerprints and samples. If fingerprints or samples are taken from a person in connection with the

44. Ibid.
45. Id., S. 61(1).
46. Id., S. 61(2).
47. Id., S. 61(5).
48. Id., S. 61(8). Similarly Ss. 62 and 63 permits the concerned authorities to take samples from the body. Samples includes both intimate and non-intimate samples.
49. Introduced by S. 56 of the Police and Criminal Evidence Act, 1994. The Act divides samples into two: (1) intimate samples and (2) Non-intimate samples. Fingerprints are included in non-intimate samples.
investigation of an offence and he is cleared of that offence, they must be destroyed as soon as is practicable after the conclusion of the proceedings.\textsuperscript{50} If fingerprints or samples are taken from a person in connection with such an investigation and is decided that he shall not be prosecuted for the offence and he has not admitted it and been dealt with by way of being cautioned by a constable, they must be destroyed as soon as is practicable after that decision is taken.\textsuperscript{51} If fingerprints or samples are taken from a person in connection with the investigation of an offence and that person is not suspected of having committed the offence, they must be destroyed as soon as is practicable after that decision is taken.\textsuperscript{52} If fingerprints are destroyed any copies of the fingerprints shall also be destroyed and any chief officer of police controlling access to computer data relating to the fingerprints shall make access to the data impossible as soon as it is practicable to do so.\textsuperscript{53} A person who asks to be allowed to witness the destruction of his fingerprints or copies of them shall have a right to witness it.\textsuperscript{54}

Although there was efforts to include the suppression of bodily samples within the scope of the privilege against self-incrimination this never succeeded.\textsuperscript{55} Thus it can be concluded that taking fingerprints are well excluded from the privilege of self-incrimination.

\textit{India}

In India initially the application of the doctrine of self-incrimination was limited only to orally compelled testimony. Before the commencement of the Constitution, Section 3 of Act 15 of 1852 recognized that the accused

\begin{itemize}
\item \textsuperscript{50} \textit{Id.}, S. 64(1).
\item \textsuperscript{51} \textit{Id.}, S. 64(2).
\item \textsuperscript{52} \textit{Id.}, S. 64(3).
\item \textsuperscript{53} \textit{Id.}, S. 64(5).
\item \textsuperscript{54} \textit{Id.}, S. 64(6).
\item \textsuperscript{55} Susan M. Easton, "Bodily Samples and the Privilege against Self Incrimination", [1991] Crim.L.R. 18.
\end{itemize}
in criminal proceedings was not a competent or compellable witness for or against himself. The Indian law as regards self incrimination continued to be the same as the English common law with regard to the production of documents but was modified as regards witnesses by compelling them to answer incriminating questions and giving them immunity from prosecution based on their answers.

In *M.P. Sharma v. Satish Chandra*, the Supreme Court addressed the question whether search and seizure of document from a person against whom a first information report had been lodged with the police amounted to compelling him to be a witness against himself within the meaning of Article 20(3). The Court after examining the history and development of this right observed that under Article 20(3) the phrase used is “to be a witness” and a person could “be a witness” by producing documents. It is not confined to the giving of oral evidence. It was held by the Court that there was a violation of constitutionally guaranteed right.

Thus the right began to be recognised in India and got much importance during the collection of evidence. When evidence is acquired from an accused, it should not violate his right. At this juncture it is important to note about the application of this right when evidence is collected from the body parts of the accused and used against him.

In addition to Section 73 of Indian Evidence Act 1872 and Sections 5 and 6 of Identification of Prisoners’ Act, 1920, the Section 6 of

56. This provision was repealed by the Indian Evidence Act, 1872. In the meanwhile Ss. 203 and 204, of Cr. PC, 1861 provided respectively, that no oath was to be administered to the accused and it was in the discretion of the magistrate to examine him. This provision is now in S. 313 of Criminal Procedure Code, 1973. H.M. Seervai, *Constitutional Law of India*, N.M. Tripathi Pvt. Ltd., Bombay (4th edn.-1993), p.1061.


59. *Supra* n .30.

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Kerala Habitual Offenders Act, 1960 also says about the taking of finger impressions. Section 662 of the Habitual Offenders Act says that the District Magistrate or any officer appointed by him in this behalf has power to order the finger and palm impressions, footprints and photographs of any registered offender to be taken at any time.

Even though the Supreme Court in *Sharma's* case, extended the scope of the privilege to testimonial compulsion obtained outside the court, there was wide confusion and conflict among various decisions of the High Court. Beginning with the decision of Orissa High Court in *Bhaluka Behra v. State*, wherein Section 5 of the Madhya Bharat Identification of Prisoners Act empowered the magistrate to allow the measurement or photograph of prisoners to be taken. This included the taking of thumb impression also. The direction made by the magistrate to give the thumb impression under Section 5 of Act was challenged as void and repugnant to Article 20(3) of the Constitution. The court held that this particular section empowering the magistrate to order for taking thumb impression is void and repugnant to Article 20(3).

Contrary to this, certain other High Courts had taken the view that taking of fingerprints in the course of investigation is not violative of Article 20(3) of the Constitution.

60. *Supra* n.36.
61. Section 6 of Identification of Prisoners' Act, 1920 reads:
   "If any person who under this Act is required to allow his measurements or photograph to be taken resists or refuses to allow the taking of the same, it shall be lawful to use all means necessary to secure the taking of. Resistance to or refusal to allow the taking of measurements or photographs under this Act shall be deemed to be an offence u/s 186 I.P.C.".
62. *Supra* n.37.
63. *Supra* n. 58.
In Re Sheik Muhammad Hussain, the Madras High Court held that taking fingerprints by the police in the course of investigation, which was later produced at trial, did not amount to testimonial compulsion under Article 20 (3) and was admissible in evidence.

The Kerala High Court in State of Kerala v. Sankaran Nair, examined in detail all the previous decisions concerning the privilege against self incrimination and taking of specimen handwriting got by non voluntary act of the accused. The Court concluded that this does not amount to self incrimination by compulsion. Even though the Court did not adjudicate on the taking of finger prints but opined that they are not impressed by the argument that in taking fingerprints, the guarantee against self incrimination is never violated.

On account of these conflicting decisions, the Supreme Court finally in State of Bombay v. Kathikalu Oughad dealt with the following issues. They are whether: (1) compulsory obtaining of handwriting from the accused by the police during investigation of the crime for the purpose of comparison violated Article 20 (3) of the Constitution, (ii) giving of a direction by a court to an accused person present in the court to give his specimen writing and signature for the purpose of comparison under the provisions of Section 73 of the Indian Evidence Act violated Article 20 (3) of the Constitution and (iii) compulsory obtaining the impressions of the palms and fingers of the accused by the investigating police officer in the presence of a magistrate violated Article 20(3).

67. A.I.R. 1960 S.C. 1808. The respondent was charged under Ss. 302 and 34. The prosecution adduced a “chit” which contained handwriting of the accused. Specimen handwriting was also taken in three separate sheets and compared. Fingerprints were obtained from the burgled shop and also from the articles recovered. In order to compare, fingerprints were taken from the accused under the instruction of the Magistrate.
The Court, by majority, held that the Constitution makers intended to protect an accused person from self-incrimination in the light of the English law in the area. They could not have intended to put obstacles in the way of efficient and effective investigation into crime and bringing criminals to justice. There were also provisions in law (Section 73 of Indian Evidence Act, 1872, Sections 5 and 6 of Identification of Prisoner’s Act, 1920) which permits the taking of thumb impressions or specimen handwriting under which a prisoner can be compelled to permit his photograph or measurements to be taken. Giving of thumb impressions, handwriting or documents are not personal testimony and they do not come within the meaning of “to be a witness” under Article 20(3). Moreover finger impression or handwriting cannot be changed while personal testimony, i.e., testimony given on the basis of personal knowledge depends on the volition in the sense that the accused can make any kind of statement. The Court concluded by observing that thumb impressions or impressions of footprints, palm or fingers or specimen writings or showing parts of the body by way of identification were not included in the expression “to be a witness” under Article 20(3).

The Law Commission of India has also observed that a provision permitting examination of body parts have the chance of passing through the courts for scrutiny under Article 20(3) and such provision which allows the examination of body would reveal valuable evidence, and so it will not be hit by the privilege of self incrimination.

Analysing all the decision and statutory provisions it is strongly felt that the Constitution never intended to add the evidence obtained from the body of the accused within the purview of Article 20(3). Before the commencement of the Constitution, the provisions with regard to the taking of fingerprints were in existence. The framers of the Constitution should have had this provision in their mind while framing the Constitution.

68. Law Commission of India, 37th Report at p.207. See also Law Commission of India, 180th Report p.5 which says that procuring of DNA evidence and using it as evidence in not hit by Art. 20(3) available at www.lawcommissionofindiac.ig/report.
Fingerprinting can of course be said to be an encroachment on liberty of person. But it is justifiable upon the exercise of the police powers of the state for the purpose of facilitating detection of future crime and punishment and it is an appropriate means to identify criminals and detect crime. Moreover when the accused person is called upon by the court or any other authority holding an investigation to give his fingerprints or signature or specimen of his handwriting he is not giving any testimony in the nature of a personal testimony. The giving of a personal testimony must depend upon his volition.69 He can make any kind of statement or may refuse to make any statement. But his finger impression or his handwriting in spite of efforts at concealing the true nature, it cannot be changed due to its intrinsic character. Finger impression of a dead man is as accurate as that of a living.70

Forensic examination of telling traces, personal traits etc., generally require some physical object for inspection, manipulation and analysis.71 These acquisition methods require some penetration into the areas under the protection of the Constitution. But the privilege does not provide a license to commit crime.72 In England and America efforts to include bodily samples once removed from the body within the scope of the privilege against self-incrimination was never accepted and they were firmly resisted by the courts.

The forensic evidence establishes the presence of the accused in particular place or traces of a particular substance on his person. Thus forensic techniques like DNA fingerprinting may be used to mount a case

against the accused. Compulsion is the essential element in attracting the provisions of Article 20(3) of the Constitution. Even though the evidence is produced under compulsion it has the ring of truth since something is discovered as a result of this evidence. Law enforcement agencies should always keep in stride with the advances of science. Although in U.S.A., testimonial compulsion includes compelling a person to produce documents, the courts have excluded fingerprints adduced from the accused from the purview of testimonial compulsion.

The policy of privilege against self-incrimination is plain. It exists mainly to stimulate the prosecution to full and fair search for evidence procurable by their exertions, and to deter them from a lazy and pernicious reliance upon the accused testimony extracted by force of law. The privilege, if loosely extended it would not be in the public interest. It may be taken that while the accused cannot be compelled to give his specimen writing and signatures because such specimen writing and signatures may be used as evidence against him, there is nothing to prevent the accused from being merely asked to give him specimen writing because the accused may give evidence if he chooses to do so though he cannot be compelled to give evidence.

When the accused voluntarily gives his specimen writing and signature without raising any objection, the protection under Article 20(3) of the Constitution is not contravened and such writing can be taken into consideration. A direction to an accused person to give signature, specimen writing, thumb impressions, fingerprints or footprints to be a witness against himself will not be hit by Article 20(3). The direction by the magistrate

to a person to write words or to give finger impressions implies that it does not impose any obligation upon the person. Thus an accused who is directed to give finger impressions is free to decide whether he would or would not comply with it. Taking of fingerprints, footprints of the accused for the purpose of comparison with the prints obtained from scene of crime do not lose their probative value, whether obtained voluntarily or involuntarily.

Moreover when a person who is arrested, whether on a charge or otherwise alleges at the time when he is produced before a magistrate or at any time during the period of his detention in custody, that the examination of his body will afford evidence which will disapprove the commission of offence by him or which will establish the commission by any other person of any offence against his body then the magistrate shall, if requested by the arrested person, direct the examination of the body of such person by a registered medical practitioner unless the magistrate considers that the request is made for the purpose of vexation or delay or defeating the end of justice. Thus taking of finger impression can be made with the consent of the accused.

In short, it can be said that the giving of finger impression or of specimen writing or of a signature by an accused person, though it may amount to furnishing evidence in large sense, is not included within the expression “to be a witness”. In order that a testimony by an accused person to be self incriminatory the compulsion must be of such a nature,

78. The words used are “may direct and not compel” under Section 73 of Indian Evidence Act, 1872.
that it should have the tendency of incriminating the accused. A specimen handwriting or finger impression by them are not testimony at all being wholly innocuous because they are unchangeable except in cases where the ridges of the finger or the style of writing have been tampered. They are neither oral nor documentary evidence but belong to the third category of material evidence, which is outside the limit of testimony.

Relevance of Expert Evidence

When the subject matter of inquiry is such that persons cannot prove or is not capable of forming correct judgment upon a matter or when it is concerned with a science or art, the opinion of a person having special knowledge of the subject matter concerned became relevant. In a situation where technical knowledge is relevant, it is very difficult for the court to form an opinion unless the court gets assistance from expert persons.

Law of evidence recognises that in certain circumstances which involves scientific or technical questions the court may require the assistance of persons (experts) who, on accounts of special studies or experience, are conversant with matters of science or professional skill. Law treats these experts as witnesses.


84. The usefulness of expert evidence has, from time to time, been doubted by judges and expert evidence has been said to be of little value. Von Daissa, "Difficulties of Assessing Expert Evidence" 61 Aus. L.J. 615. (1987).


86. Ibid.

87. Continental system define an expert as a person who are conveyers of tribunal scientific information on abstract questions of fact. This information is evidence so long as it is submitted like all other evidential material to the free evaluation and appreciation of the tribunal.
The origin of expert evidence can be traced even before jury trial system developed. There were two modes of using expert knowledge in England—(1) to select the jury men and (2) to call to the aid of the court skilled persons whose opinion might be adopted. This was the time when juries were not only judges of fact but also witnesses. But there was change in the situation when the courts system began to develop, the rule against the admission of opinion and hearsay evidence also originated. Thus the use of experts remained as a means of assisting the jury to interpret matters of fact bearing scientific implications. These changes affected the procedural aspects also. Experts were no longer summoned by the court but by the parties. Moreover experts became witnesses and caused to occupy the position of special jurors.

Section 45 creates an exception to the general rule that evidence of opinion is not admissible. Section 45 makes it clear that when the court has to form an opinion on a matter of foreign law, science, art, identity of handwriting or finger impressions, the court can seek the assistance of persons skilled in these fields. The words ‘science’ or ‘art’ can be interpreted widely to include any branches of specialised knowledge. In view of language of Section 45, it is necessary that before a person can be categorised as expert, there must be some material on record to show that the expert is one skilled in that particular science. This section is therefore exhaustive of the matters on which expert testimony can be given, though the expression “science” or “art” include almost all branches of human knowledge requiring special study, experience or training. It is important to note here that in law, the term ‘expert’ has a special significance and no witness is permitted to express his opinion unless he is an expert within the terms of Section 45.

88. The early English usage of word ‘opinion’ means notion or precaution of the mind without proof or without certain knowledge. So the early English decision rejected this evidence of opinion on the basis it is an evidence of belief.

Generally the use of experts may be useful in cases where the issues involve some fields of expertise, which the judge has not got. The function of the expert witness is to provide the court of law with information about a point at issue or to help the court to interpret information about a point at issue, which is outwith the knowledge, and experience of that court. The court takes the aid of expert witness to help the judge and jury to understand the case. An expert is one who is skilled in a particular art, trade or profession or having particular knowledge in a field. The expert must have made a special study of the subject or have acquired special experience in the field. With regard to the competency of expert witness Lord Russel asked:

"Is he peritus; is he skilled; has he adequate knowledge?".

A forensic scientist is neither a witness for the prosecution nor the defence but essentially a witness of the court. The expert operates in a field beyond the range of common knowledge. In short an expert means a person who by reason of his training or experience is qualified to express an opinion.

**Fingerprint Expert and His Report**

If the expert is able to show the court the existence of such facts and establishes the validity or invalidity, by proving and demonstrating his findings, his testimony becomes substantive evidence rather than mere

93. *Id.*, p.19.
The opinion of a fingerprint expert is of value only who he can give satisfactory reasons for his conclusions. Reasons that can be understood and convincing should be the basis for any opinion that might be expressed. If the expert witness simply testifies that a fingerprint is that of a particular person and gives no reason for reaching into the conclusions his opinion is value less. Theories or opinions that cannot be proven have no practical standing and inevitably lead to no conclusion. The rules of evidence should be such that the fingerprint expert should not only express an opinion as a conclusion of his examination, but should first state and show to the court the facts and then his conclusions from the facts.

A competent fingerprint expert must have both theoretical and a practical knowledge of the subject. He has to compare the disputed fingerprints and point out the similarities or dissimilarities between the two impressions. He has also to educate both the court as well as the counsels about the existence of identity. The competency of the fingerprint expert can be ascertained from the qualification, experience, training and study possessed by the expert. For that matter, fingerprint experts are now being trained in the various fingerprint bureau and other institutions like Institute of Criminology and Forensic science in the Ministry of Home Affairs, Government of India and any person who has received training in those institutions can be classed as experts.

Fingerprint being a scientific evidence, also presents special problems to the courts. As neither the judge or the jury can have direct experience of all scientific matters relating to a particular case. Here they are unable to assess the evidence against their own experience. The court has to rely heavily on the opinions expressed by these experts. Therefore, the court has to ensure that the expert witness is reliable by an examination of his qualifications and experience in the field. It is the duty of the opposing counsel to ensure that the court does not inadvertently over estimate the

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value of a particular aspect of the evidence.\textsuperscript{97} The expert is asked not only to report his perceptions of events which he has observed but also to employ the resources he has invested in his training in order to draw inferences and form conclusions. The expert possesses a kind of equity in the substance of his testimony that is created by his investment of resources.\textsuperscript{98}

In \textit{Mohanlal v. Ajith Singh}\textsuperscript{99} the fingerprints of the accused was found to be similar with that of the fingerprints on the currency notes which belonged to the deceased. The expert made it clear that this prints were clear enough for comparison. The Supreme Court held that it is for the fingerprint expert to say whether the disputed fingerprints are clear enough for the comparison. The expert should be experienced and skilled to say it is unable to use it as evidence.

In order to ascertain whether a finger impression is that of a person any finger impression admitted or proved to the satisfaction of the court to be the finger impression of that person, may be compared with former impression, although that impression has not been produced or proved for any other purpose. The court may also direct any person present in the court to compare the impression so made, with any impression alleged to be the finger impression of such person.\textsuperscript{100}

According to Stephen Meager\textsuperscript{101}, an FBI fingerprint expert there are three levels of fingerprint details, which the fingerprint expert should examine. Level one includes the print’s central area, i.e., arch, whorl and loop, level two emphasizes features of friction on ridge paths, bifurcations, dots etc, level three involves the intricate details such as the size and


\textsuperscript{100} Indian Evidence Act, 1872, S.73 See also State v. Paliram, A.I.R. 1979 S.C. 14, State v. Parameswaran A.I.R. 1952 T.C. 482.

location of pores on the given ridge. So a fingerprint expert should examine all these three levels and come to a conclusion.

In *Ammini v. State of Kerala*\

102 fingerprints were found on the two glasses found in the deceased house. The fingerprint expert compared this fingerprint with the admitted fingerprint of the accused and it tallied. The trial court disbelieved this valuable piece of evidence on the ground that those impressions was not clear enough to enable the expert to came into a definite conclusion and it was doubtful whether the subsequent photographs were of the original finger prints. The High Court severely criticized the trial court for taking such a conservative view. The Supreme Court also relied upon this fingerprint evidence in establishing the guilt of the accused.

In *State of Madhya Pradesh v. Sitaram*\

103 the fingerprint expert failed to take enlarged photographs of all the disputed prints. The Madhya Pradesh High Court reminded that the task of the court become much easier where the fingerprint expert has taken enlarged photo of the disputed and specimen fingerprints and marked the distinct points of similarities. The Court also laid that the court cannot delegate its authority to the expert but it has to satisfy itself as to the value given to any other evidence. The reasons given by the expert in arriving at the conclusion are ultimately to be weighed by the court and satisfy itself about the correctness of the conclusion by comparison of the prints.

It is difficult for the layman to appreciate the full meaning of the expert’s testimony on account of its technical nature.\

104 While presenting the fingerprint evidence, the expert should present it in clear and visible terms. This will enable the court to satisfy itself with the genuiness of the evidence. Therefore it is to be presented with some graphic representation of facts. The two prints viz., the questioned and the specimen or admitted

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103. 1978 Cri. L.J. 1220.
should be photographed and the prints enlarged to the same size. The sufficient number of characteristics should also be marked with lines and numbers to show in visible form that the two impressions have same ridge characteristics.

A vague report of a finger print expert is of no use to the court. It must be definite and should include the condition of the prints, as to whether they are complete, partially blurred or whether they have been heavily or lightly impressed. The reasons supporting the opinion must be expressed in clear and definite language. There should not be any ambiguity.

**Admissibility of the Report without Physical Presence**

The most fundamental rule of law of evidence is that all evidence must be logically relevant to an issue which falls to be decided by the court. To be legally relevant, a fact or item of evidence must establish or help to establish the particular point charged against the accused.

Under Section 293 of the Code of Criminal Procedure, 1973, any document purporting to be a report under the hand of a government scientific expert to whom this Section applies upon any matter or thing duly submitted to him for examination or analysis and report in the course of any proceeding under this Code may be used as evidence in any enquiry, trial or proceedings under this Code. This Section applies to the following government scientific experts, viz., 1. Any Chemical Examiner or Assistant Chemical Examiner to Government, 2. the Chief Inspector of Explosives, 3. the Director of the Fingerprint Bureau, 4. the Director Haffkeine Institute Bombay, 5. the Director of a Central Forensic Science Laboratory or a State Forensic Science Laboratory and 6. the Serologist to the Government.


This Section enable the court to admit the reports of the above mentioned experts which include fingerprint expert also, as evidence even without the physical presence of the expert. The section ensures that an expert covered by this provision is not to be summoned for oral evidence.107

In State of Kerala v. Anthony108 the Kerala High Court held that when an expert is summoned he need not attend the court but can depute any officer conversant with the facts and circumstances of the case. The Government Scientific Expert mentioned under Section 293 of Criminal Procedure Code, 1973 expressly includes the Director of Fingerprint Bureau and therefore his report is admissible in evidence without his physical presence.

In H.P. Administration v. Omprakash109 the fingerprints were found on the glass panes of the windows and also on a flask found on the scene of crime. The expert opined that the prints matched with that of the accused. It was contented that the fingerprint report did not contain reasons for the opinion that fingerprint belonged to the accused. The Supreme Court held that the report regarding the fingerprint is that of the Director of the Fingerprint Bureau which under Section 510 of Criminal Procedure Code (Section 293 of Criminal Procedure Code after the amendment) can be used as evidence in any trial or enquiry without examining the person who gave the report. As long as the report shows that the opinion is based on observations which lead to a conclusion that opinion can be accepted. But if there is any doubt it can be decided by calling of the person making the report.

In Phool Kumar v. Delhi Administration110, the report of the fingerprint expert was used as evidence by the prosecution without
examining him in court. Neither the court thought it fit nor the prosecution or accused filed any application to summon the expert on the subject matter of his report. The report of the fingerprint expert was being used even without his examination in court and was made admissible both by the High Court and also the Supreme Court.

The Supreme Court in *Tulsiram Konu v State*\(^{111}\), observed that the reason why the report of the Director of the Fingerprint Bureau is treated as evidence without examining the persons giving the report is that the comparison and identification of fingerprints has now developed into a science and the result derived therefrom have reached a stage of exactitude. As long as the report shows that opinion was based on observations which lead to a conclusion, that opinion can be accepted. But there should not be any doubt and if there arises doubt it can be decided by calling of the person making the report.

**Qualities for Validity of the Report**

The methods adopted in identifying fingerprint identification has been used for approximately 100 yrs and is subjected to peer review. The error rate of fingerprint identification is low also. It has been commonly accepted that no two fingerprints are identical and that fingerprints cannot be changed and do not alter with age.\(^{112}\) If a fingerprint can be identified as belonging to a particular person it is almost conclusive evidence that the person handled the object involved.\(^{113}\) The fingerprint system itself was developed in order to establish the identity of individuals.\(^{114}\)

In order to ascertain the validity of the opinion of the expert certain qualities should be ascertained from the expert.

a) Expertise: It may be absurd to say that an expert witness lacked expertise. The question of expertise could be assessed on the basis

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\(^{111}\) A.I.R. 1954 S.C.I.


\(^{113}\) *Ibid.*

of an enquiry into his scholastic attainments, professional training, experience and means at his command to perform tests and finally the application of those means in the examination of exhibits in the particular case.

b) Clarity: The opinion which he gives should be clear and should not be vague. The court should be able to understand his conclusions. It should be given after a complete and scientific, examination of the prints received for examination.

c) Relevancy: Evidence is admitted on the basis of relevancy and admissibility. A piece of evidence may be relevant when it is connected to facts of the case. In addition to this it should be admissible under the law.

d) Reliability: An expert opinion should be reliable and it must be free from all bias-consciousness or unconsciousness.

The weight given to the opinion of the expert is different matter from its relevancy. The Act only provides about the relevancy of expert opinion but gives no guidance as to its value. The value of expert opinion has to viewed in the light of many adverse factors. Firstly, there is the danger of error or deliberate false hood. Secondly it is after all an opinion given by a person and human judgment is fallible. But with regard to evidence of fingerprints it has been given much weight due to its permanent characteristics. The science of fingerprints has been referred to be an exact science. So the evidence of the fingerprint expert is given considerable weight. A fingerprint is in reality an unforgeable signature. The evidence of a fingerprint expert can be acted upon without corroboration as the science has developed to such an extent that it does not admit any mistake. The introduction of the use of thumb impressions in the field

117. 1983 Cri. L.J. (NOC) 238 (Orissa).
of criminal investigation has marked a deathblow to the nefarious activities and also to the profession of forgers and dishonest litigants. So these adverse factors have not much relevance in fingerprint evidence.

**Judicial Approaches**

Expert opinion of fingerprints has the same value as that of opinion of any other expert. In fact it can be said that the other evidence in which expert have to give opinion is not that good as fingerprint evidence. Its value has been increased tremendously by the fact that any individual when he touches or picks upon object is apt to leave his fingerprint on them and these fingerprints can be developed and brought to the court. The court itself can check similarity through magnifying glass.

In *Pathumma v. Veerasha*, it was rightly observed by the Kerala High Court that no two human beings have the same finger impressions and if no difference can be found between one mark and another, the conclusion is that it is produced by the same person.

In *Jaspal Singh v. State of Punjab*, the appellant was alleged to have committed murder. There was statement of a witness (mother of the deceased) which contains a different version regarding injury sustained by deceased and also this statement contained her thumb impression. It was opined by the expert that the thumb impression was not of the mother of deceased but of a different person. The Supreme Court in this case held that the science of identifying finger impressions have reached an exactitude and it does not admit any mistake or doubt. The court has to rely on the expert on two distinct points: (1) on the questions of similarity between the marks, which is the question of fact on which the court can be and should with the assistance of the experts satisfy itself and (2) on the point which is one for expert opinion, whether it is possible to find the

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118. C.K. Johari, “Court of Law... and Forensic Science Experts” 1996 Cri. L.J. 157 (Jour.).
fingerprints of two individuals corresponding in as many points of resemblance as are shown to exist between the impression found in the case before the court and those of the accused. When the expert tells the court that it is impossible to find so many characteristics identical in the fingerprints of two persons and when the statement agrees largely with that one has read on the subject in scientific books, the court need not hesitate in accepting the opinion. It is the duty of the expert to give reasons for his conclusions and if there is no data which provides for incorrect calculations then the reliability of the evidence can be as ascertained. The reasons given by an expert in arriving at conclusions are ultimately to be weighed by the court and it has to satisfy itself about the correctness of the conclusions by comparison of the points.

In James v. State of Kerala,\textsuperscript{121} fingerprints as well as footprints were obtained from the scene of crime. But the prints were blurred and dirty. Even then the expert took the photographs and identified the similarities with that of accused's fingerprints. It was held by the Kerala High Court that even if the fingerprints are blurred or dirty it is for the court to decide whether the evidence is reliable or not. Fingerprint evidence is admitted on the basis that no two individuals have identical prints. Scientific research and analysis lead to the conclusion that the probability of the existence of two identical fingerprint pattern in the world population is practically nil.

The court must be very careful not to delegate its authority to a third party. The court must satisfy itself as to the value of the evidence. The main thing to be ascertained is that whether the expert's examination is thorough, complete and scientific.

In Re Godavarthy Bhashya Karu Charyalu,\textsuperscript{122} the Andhra Pradesh High Court held that it is duty of the court to scrutinize the experts' evidence by examining the reasons adduced by him for his conclusions.

\textsuperscript{121} 1994 (1) K.L.J. 871.
\textsuperscript{122} A.I.R. 1966 A.P. 164.
In *Murarilal v. State of M.P.*, the appellant was charged to have committed murder. Fingerprints of the accused as well as a note containing his handwriting was recovered from the scene of crime. The expert found that handwriting as well as fingerprints tallied with that of the accused. The Supreme Court held that corroboration was not required in fingerprints evidence because it had reached a stage of perfection and there was no possibility of an incorrect opinion.

Fingerprint evidence has been used in almost every case and it has developed a stage of exactitude. It is possible even for a judge to compare the disputed fingerprints when they are sufficiently clear. The opinion of the expert is based on careful comparison of the photographs of the disputed finger impression and has not been shattered by cross examination, it can be ground for conviction.

In *Hatendra Nath Sen v. Emperor,* the question raised before the Calcutta Court was whether a conviction can be based upon unsupported testimony of a fingerprint expert. The Court speaking through S.K. Ghosh, J., held:

"I do not think that it can be laid as a rule of law that it is unsafe to base a conviction on the uncorroborated testimony of a fingerprint expert."

But other courts have taken a contrary view. In *Gopal Chandra Mahanta v. State of Assam,* the Gauhati High Court held that it is most unsafe without any corroboration to convict a person accused of a serious crime solely and entirely upon similarity of fingerprints.

In *Chandran v. State of Kerala,* the appellants were charged of committing robbery and murder. Their fingerprints matched with that of

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124. A.I.R. 1931 Cal. 441.
124a. *Id.*, p. 444.
the prints obtained from the scene of crime. The appellants contented they were taken to the crime scene and was forced to touch the areas of windows and glass pieces, from which the prints were taken. The Supreme Court did not accept the evidence given by the fingerprint expert as the Court felt that the fingerprints obtained from the accuseds were under compulsion and held that it was highly hazardous to rely upon such evidence.

In majority of cases, fingerprints found in crime scenes are partially blurred and it is for the experienced and skilled fingerprint expert to say whether it is to be marked as evidence. But the beauty of fingerprint evidence is that even the smallest portion of a fingerprint may contain a rare peculiarity and that is itself sufficient to establish the identification. But when the expert does not give reason in support of his opinion, it cannot be accepted as evidence and a conviction cannot be based upon such evidence.

In *Mahmood v. State of U.P.*,\(^\text{127}\) where the conviction of the accused person was on the basis of a solitary circumstance, i.e., the presence of fingerprint on the handle of the gandasa, which was found lying near the dead body at the place of occurrence. The Supreme Court held that even if the gandasa bore the fingerprints of the appellant, the conclusion will not be that the fingerprint is that of the appellant, unless it is formally proved. The expert also in this case did not give the reasons for his conclusions. Therefore the Court did not accept the solitary piece of fingerprint evidence and it was considered as a fragile and shaky ground for conviction.

Many of the High Courts have ruled that basing conviction on fingerprint evidence is safe provided the court take adequate care and caution and the report of the fingerprint evidence are on sufficient reasons.

The Madras High Court in *Public Prosecutor v. Virammal*,\(^\text{128}\) took the view that a court cannot refuse to convict a person on the evidence

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\(^{128}\) A.I.R. 1923 Mad. 178.
of a fingerprint expert merely on the ground that it is unsafe to base a conviction upon such evidence. Jawala Prasad, J., speaking for the Court concluded that the probative value of the opinion of fingerprint expert is same as the value of the opinion of any other expert. So the evidence is only a guide to the court and the court is at a liberty to use its discretion to accept an evidence and come to a conclusion.

In State v. Karugope, the Patna High Court accepted the opinion of the fingerprint expert and considered it as a sufficient piece of evidence for upholding the conviction of the accused. The Court only remarked that the expert must give reasons for the opinion expressed in the report. The Court held that it would be better if the reports of fingerprint evidence contain reasons which will help the court to clarity the ideas. It will furnish a valuable guide to the parties and the court. It would also be fair to the person, against whom the opinion is to be used, that the reasons for the opinion are definitely expressed.

In Phool Kumar v. Delhi Administration the appellant was caught for committing robbery. The clinching evidence against appellant was a thumb impression on the cashbook. It was conclusively proved that the finger impression was that of the appellant on the report of the fingerprint expert. The report of the expert was used as evidence by the prosecution without examining him in the court. The Court also did not summon the expert as there was no application from either side. The Supreme Court sustained the conviction and sentence passed by the High Court.

Conclusions and Suggestions

The science of fingerprint identification is a century old discovery. It has been held to have attained a status of exactitude which does not admit any mistake. One of the advantages of taking finger expressions in establishing the identity of a person is that it can be taken with minimum

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time and effort. This will enable speedy investigation proceedings. Thus it can be a potent and powerful weapon in the armory of administration of justice. Fingerprint evidence helps to adjoin a missing link and thus strengthen a weak chain of investigation.

The fingerprint evidence has been referred to as reliable piece of evidence.\textsuperscript{131} They are also permanent and do not undergo any change.\textsuperscript{132} It has been considered as the best-known means of establishing the identity of a person. Therefore it cannot be said that a conviction cannot be based on fingerprint evidence. However it would be risky if the courts form an opinion without getting the assistance of a fingerprint expert. When a conviction rests entirely upon the evidence of an expert in fingerprints, it is the duty of the trial court to direct its mind to such evidence, with a view to satisfying itself that the finger impression in question is in fact the impression of the person charged, taking such assistance as it can from the evidence of the fingerprint expert.

In admitting fingerprint evidence the court should be careful enough to study the reasons given by the expert. An expert opinion is meant to assist the court in attaining final conclusion regarding facts which require special and technical knowledge. The expert opinion is admitted to aid and guide the court, and not to decide the issue. The court must ultimately make up its own mind in relation to the issues.\textsuperscript{133} The court should review all the evidence before it. It cannot be said that expert evidence has only slight weight and the court should not make such an attitude toward the expert evidence. Expert evidence when based upon identified facts and identified theory and has a valid deductive reasoning should be accepted. The weight of the opinion should be assessed according to the authority, experience and qualification of the witness. In short, before taking the testimony of a fingerprint expert it is to be ascertained that whether he actually possesses specialized knowledge or not.

\textsuperscript{131} J.P. Eddy, "Infallibility of Fingerprints", [1955] Crim. L.R. 34.
\textsuperscript{133} Peter Gillies, "Opinion Evidence", 60 Aus. L.J. 59 (1986).
In this context it is suggested that a course which gives basic knowledge of scientific evidence should be offered during the law degree level itself so that the law student will possess a minimum basic knowledge in fingerprint evidence. Also programmes leading to the Bachelors and Masters in Forensic Science should be offered to develop general as well as advanced understanding of these sciences. It is also suggested that a fingerprint expert may be engaged to examine another fingerprint expert where the matter is serious and no other evidence for the purpose of corroboration is available.

Over the years fingerprinting has played a crucial role in resolving numerous cases, thereby helping the enforcing agencies to book the criminals. The court should have a cautious approach in accepting these scientific evidences rather than a reluctant approach. The court should ensure the soundness of the evidence put before it and also the aptness of the uses of the evidence. The court has to note that fingerprints are so individualistic, and their possible presence should never be ignored since they can conclusively establish the identity of a person.

In the absence of fingerprints, DNA fingerprinting is a very useful method. The introduction of scientific evidence in to the courtroom can be problematic if the full utility and basis of these evidences are not fully understood. Lawyers may not be in a position to understand these technical evidence, expert witnesses may also have troubles in framing their opinions in terms of appropriate legal context and the judges may also be perplexed by scientific testimony owing to their technicalities. The solution to all these difficulties is the proper understanding of these scientific evidence and also their importance in legal context. In order to understand the basics there should be training programmes in technical subjects.

In Western countries DNA test and profiles are widely used and they give systematic training in all these subjects. In a country like India such programmes involving orientation programmes, seminars, workshops and publication should be carried out. This will increase the utility of adopting new paths of scientific experiments.
There should be an institute on the futuristic study of DNA evidence since many study commission in Western countries in which these evidences are widely used, made positive recommendations in the areas of post conviction DNA testing laboratory findings and crime scene DNA evidence collection technique.

In admitting the scientific evidence the court should look into the fact whether the method is scientifically valid. The court should also take into account whether the methods have been accepted by the scientific community. When a new scientific method has proved to be useful in detecting crime, its genuineness and soundness should be ascertained and if the court is satisfied with the aptness of the scientific evidence, the court has to accept such evidence. The court should not reject the evidence on the ground that they are merely opinion based on scientifically proved facts.

The use of scientific evidences should be encouraged so that the investigating agency could make use of these techniques in their endeavor to bring out the truth. The court can also effectively do so in solving the problems. The decision makers could be scientists who possess special knowledge in disputed matters. Scientists are best suited persons to criticize and scrutinized opposing view points.

The quality of the experts should be ascertained before accepting the evidence of the experts. The quality depends upon the validity and reliability of the experts. The physical competence and physical ability of the witness should be ascertained. The report of the expert should contain all the details regarding the particulars aspect. The court should accept the evidence only from reliable persons.

While admitting these evidence the court should apply its mind and should also consider other parts of evidence on record. The Court should not always look upon scientific evidence on a suspicion. If the fingerprint expert gives a report which is based on sufficient reasons, the court should accept it as a relevant piece of evidence. The court can also base its
decision on the evidence of a fingerprint expert provided proper case has been taken.

While considering the aspect of expert evidence the following factors should be taken into account: (1) the experience and competence of the expert witness, (2) adherence to the relevant investigative method and operating techniques and (3) the possibility of error in observation or in recording of the test.

Expert evidence is an opinion made on a conclusion inferred by the application of theory to various facts. In assessing the opinion attention should be given to each of the steps in the process of reasoning and to the primary facts and also to the theory and conclusion.

With the steadily increasing crime rate, it becomes imperative that crime investigating agencies are equipped well with all available resources that can help them to solve the crime at an accelerated pace and here it is pertinent to mention that forensic science form an important part of this process.

But it is a sad thing to note that only two Central Forensic Science Laboratories and nearly twenty State Forensic Science Laboratories are there in our country. With this little number of Forensic Laboratories it is a cumbersome task to conduct the tests. With the high rate of crime, the pressure of forensic science will increase and if there is shortage of personnel, then the quality of work also suffers. Therefore more number of laboratories and personnel should be selected to move in pace with the developments.

Lack of fund is also a factor which affects the quality of forensic work done in our country. The costs of conducting these experiments are also very high. The persons conducting these experiments may lose their interest due to lack of funding or even late issuing of permission for funds. Moreover there is no incentive that keeps the bright people in this field. The pay scale is too low, the system of promotion is too cumbersome and
on the whole forensic science is facing a lot of bureau created red tapism that is suffocating the growth and innovation in this field.

Certain guidelines are also to be followed while admitting these forensic evidence. It should not be forgotten that the courtroom is the primary fact finding forum and the legal interpretation should only be done by the court. Strict forensic discipline is to be adhered in identifying relevant issues. Examination and cross examination should be done by the counsels in issues concerning forensic evidences. Forensic discipline should be under the control of the judges trying the cases. The court as the forum of fact finding body should not delegate its powers. The role of the expert is ever increasing, and the court should consider its importance and the independence of the experts should be ascertained.

There is no law for insisting the presence of forensic scientist in the scene of crime. The only provision is Section 45 of Indian Evidence Act which provides for the opinion of experts admissible as evidence. So steps should be taken to bring forensic science in the forefront of criminal justice administration.

The Criminal Procedure Code, 1973 and the Indian Evidence Act, 1872 should be amended to make it mandatory for the forensic scientist to visit the scene of crime to collect such clue materials which includes fingerprints also. It is also suggested that Amendment to the provisions of Indian Evidence Act should be made so as to include new and scientific evidences in various trials. This will help to boost the investigation procedure itself.

Step has to be taken to give the Forensic Science Laboratories the status of autonomous scientific establishment that brings at par with other scientific organizations like the DRDO and CSIR. This would give the directorate more free hands in sanctioning projects and the forensic scientists will be treated at par with other scientists. This will also free them from the red tapism associated with any governmental work.