

Relevancy of Scientific Investigation in Criminal Justice System: A Critical Analysis

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Abstract: The Scientific methods of investigation in different modes were in use since the regime of Kautilya Arthshastra which is about 2300 years old. The use of fingerprints in place of individual signatures is widely accepted and rooted in the Indian cultural domain (Tarija) as the identification from fingerprints was said to be effectual. It is in the 19th century when the law enforcement agencies have felt to establish the 1st chemical Examiner's laboratory at Madras Presidency under the department of health in 1849. William Herschel DC of Hooghly in Bengal after applying his mental ability, skill, Knowledge explained and established that the fingerprint of a person remained unchanged throughout his lifetime. He then formulated a system of taking thumb impressions for native contractors to safeguard the interest of the government against the repudiation of contracts. He further applied the process to prison rules for the identification and verification of convicted criminals. Later on, with the scientific development of human blood examination, realizing the importance of Forensic Serology, Serology Department was established in Calcutta in 1910. However the progress of Forensic Science institutions during British time in India was restricted to the isolated attempts for specific problems but after independence, the 1st Forensic laboratory was established in Calcutta in 1952, at present we have about 28 State forensic Science Laboratories and many other regional laboratories. The total forensic science activity in India is coordinate by the Bureau of Police Research and Development (BPR&D), New Delhi.

Keywords: Criminal Justice System, Scientific Investigation, Relevancy, Critical Analysis

I. INTRODUCTION

Under the authoritative command of the law, the principal object of law enforcement agencies throughout the country is to protect the individual and the society from the clutches of crime by punishing the offenders. But at the same time, justice and Fairplay also require that no one shall be punished without a fair trial. Here, fair trial means proper investigation and collection of all material evidence free from all sort of influences, proper hearing (*Audi alteram partem*). Thus, the different agencies like Police, forensic scientists, medico-legal doctors, and the judiciary are working together to achieve the object of a criminal trial. The proper collection of the physical pieces of evidence from the crime scene and the scientific analysis may lead to a proper investigation of the criminal case and stand scientifically & legally in the court of law.

II. CRIME STATISTICS IN INDIA

In 2019 the country counts about 51, 56, 172 cognizable crimes in which the Crime committed against the Indian Penal Code; Special & Local Laws were 32, 25,701 & 30,471 respectively. During 2018 the registration of cases has been increased by 1.6% which is about, 74,365 cases in number this further shows that registration of crime over per lakh population has marginally lifted from 383.5 to 385.5 in 2019

as compared to 2018. Crime under IPC counted about a 3.0% increase; however, SLL Crimes have reported a decline by 0.6%. In terms of percentage, IPC Crimes were reported to have 62.6% and SLL cases were reported to have 37.4% in 2019. Also, the crime that affected or infected upon human body is about 10,50,945 cases which are about 36.6% of total Penal Crimes. The cases related to hurt count maximum cases about 51.9% i.e 5,45,061. Cases of causing death by negligence are 1,44,842 in number, 13.8%, Kidnapping, and Abduction count about 1,05,037 cases, i.e 10.0%. Cases related to crime against women i.e 'Cruelty by Husband or her Relatives counted 30.9%, Assault on Women with Intent to Outrage her Modesty were 21.8%, Kidnapping & Abduction of Women noted at 17.9%, cases related to Rape marked 7.9 %. In 2019 the crime rate reported per lakh women population is 62.4% as against 58.8% in 2018.¹

III. THE SCIENTIFIC / FORENSIC INVESTIGATION

A forensic investigation can be understood and defined as an art of argumentative discloser and used in court in form of evidence arrived at by scientific or technical means, such as ballistic or medical evidence.² The Indian criminal law does not specify explicitly the term "Forensic Investigation". However, the term "Investigation" has been provided and defined to include all proceedings under the code of criminal

¹ NCRB, *Crime in India: Statistics* (MHA, 2019, New Delhi)

² Bryan A Garner, *Black's Law Dictionary*, 666, 1922 (8th Edition 2004)

procedure carried out by a police officer or by any person other than a magistrate, to collect evidence under section 2 (h) of the Code of Criminal Procedure. It is to be noted that the principal agency to investigate a criminal act is the Police and wide powers have been given to its office to make the agency an effective and efficient instrument of the criminal investigation. Sections 154 to 176 of Cr. P.C deals with information to police and power to investigate, an investigation or search out for an offence is consist of visiting the spot of incident, scrutiny of facts and circumstances of the crime and of the criminal act, recovery, and gathering of all material used for committing an offence and arrest the person involved or suspected, collection of evidence in form of statements of witnesses, searching out and seizure of things, reaching to a conclusion for placing of the case before the court as per material collected for trial.³ Nowadays the traditional method of committing criminal acts or crime has changed the use of the latest technology to hide the physical evidence by criminals made it more difficult for prosecutors to gather the truth. Therefore, the whole crime scene is now investigated with the help of forensic scientists. A forensic scientist carries out a meticulous search for the important physical tangible or intangible physical clue material such as fingerprints at the crime spot. Mainly following 05 categories of scientific evidence are mostly found to be involved in a criminal investigation:-

1. Drugs
2. Fingerprints
3. Firearms
4. Blood & Blood Stains and
5. Semen

IV. CATEGORIES OF SCIENTIFIC EVIDENCE

Hairs, fibers, glass, paint, soil, etc are also subjected, collected, and examined scientifically and are considered as an esoteric form of evidence. Also, the material and information relevant to the criminal act can be stored electronically and digitally. It can be collected or can be found in form of a computer hard drive, compact disks, floppy computer disks, internet cloud storages and servers, handheld devices, micro cards, electronic mails, etc these electronic devices are also subjected to the scientific investigation of data & Information present in them. Indian courts have also accepted the fact and also noted the same at numerous instances that now revolutionary methods are being adopted for producing evidence before the court.⁴ It is a difficult task to translate and interpret the scientific gist of evidence-based purely on a science experiment and thus it raises the question of its admissibility and relevancy for ascertainment of truth and justice. There is a broad difference between conducting a scientific investigation and accepting the facts which are ultimately are the outcome of scientific investigation as a piece of evidence in the court of law. Therefore, the admissibility of scientific evidence has now become a serious issue and the Hon'ble Supreme Court in

*Selvi v. State of Karnataka*⁵ has held that Narco – analysis, Brain-mapping, and polygraph tests cannot be conducted without the consent of the accused person. Clause (3) of Article 20 of the Indian Constitution talks about self - incrimination. It provides “No person accused of any offense shall be compelled to be a witness against himself”.

V. RELEVANCY & EVIDENTIARY VALUE OF SCIENTIFIC INVESTIGATION

If we only talk about the relevancy of investigation, whether scientific or non-scientific then the result of discussion would be that - it's a procedural aspect under procedural law. The very basic object of investigating under the law is to collect substantive information and evidence. An investigation is known to be relevant only when the facts and material collected therein have some rational probative value and are capable of being admitted as evidence unless excluded by a positive rule of paramount importance before the Court.⁶ And what is said to be evidence it is having three different aspects:-

1. Equivalent to relevant
2. Equivalent to proof
3. Equivalent to the material upon the basis of which court concludes existence or non – existence of disputed facts.

The ascertainment of the evidentiary value of the material laid or of the facts so produce based on a scientific investigation before the court in a trial is not an easy task as it requires special knowledge, skill and science techniques and the most importantly the universal acceptance of the result of the scientific experiment as a universally accepted proven fact. For example, a statement of a medical experiment or research that claims that DNA Molecule (Deoxyribonucleic acid) is a biological blueprint of life and is capable of differentiating and evaluating each gene / Genetics, has no relevance/value if is not accepted as a proven fact and could not be applied as forensic evidence. Today obtaining or matching DNA profiles of accused and of victim offers an unprecedented opportunity to the courts during the trial of sexual assault as highly relevant evidence because it is scientifically proven, medically accepted by society and States in general. Thus, the core of admissibility and relevancy of scientific evidence or the evidence mainly lies in the acceptance of the facts when duly proven with special knowledge, skill, and techniques, most importantly by the Court. The Indian Evidence Act rules out the admissibility of electronic recordings as evidence under its Section 3 and 65-B. The Act also provides meaning as to what is evidence and what it includes as evidence. It further provides that all statements which the court permits or requires to be made before it by witnesses, about the matter or the fact under inquiry; such statements are called oral evidence; All documents (including electronic records) produced for the scrutiny of the court; these documents are called documentary

³ H.N. Rishbud v State of Delhi, AIR 1955 SC

⁴ Anvar v. P. K. Basheer, AIR 2015 SC 180

⁵ AIR 2010 SC 1974

⁶ Section 5 of The Indian Evidence Act, 1872

evidence.⁷ But it does not specifically provide for the relevancy & admissibility of forensic evidence but it deals with the opinion of experts whenever it requires to form a view or decision upon a point of international law, science, or art, or as to verify the handwriting or finger expressions under section 45 of the Act. Therefore, when the post mortem examination has been conducted by the doctor, then his opinion as to the cause of death, the basis of injury, x-ray report, and postmortem report must be preferred but where the medical evidence is not consistent with the oral evidence it would be permissible for the court to reject the oral evidence, though the medical evidence is known as the opinion evidence.⁸ Weightage should be given to the evidence of the medical practitioner who conducted post – mortem examination, but his evidence cannot be accepted if it is self – contradictory. But at the same time it has been seen that if there is some variation between the medical evidence and the evidence of an eye witness, the court would not take the easy way of giving the benefit of doubt to the accused. Rather it has to make every genuine effort to find out the truth.⁹ Nowadays CCTV footage is of prime importance to rule out any possibility of unwarranted criminal activity but at the same time adducing CCTV footage as a piece of evidence is not so easy as it involves deep technical analysis and can only be proved with the help of expert opinion. A high-toned but one of the tragic criminal act of the country involves the same question as to the credibility and weightage of CCTV footage in the so-called “NIRBHAYA” Case of 2012 in which an attempt has been made by the defense counsel to defeat the CCTV record on the possibility of its temperament by investigating officers of the case. It has been contended and pointed by the defense counsel that only the CCTV clip of the alleged bus was recorded and not of all other buses that had written ‘Yadav’ on them. It was further contended that the CCTV clip was not verified properly to check all other buses plying on the alleged route. Summing up the argumentative controversy of CCTV footage the Court has concluded that – that the CCTV footage in question is duly provided and is admissible and there nothing on the record to disbelieve the same as the CCTV recording produced by PW – 25 into two CDs and 7 Photographs has been *corroborated* the version stated by PW -1. That the requirement under section 65-B of Evidence Act on the question of admissibility of CCTV footage is proved by PW – 26. Thus, section 65(1) of the Evidence Act makes electronic records admissible as a document, like that of paper print out of electronic records stored in magnetic media or other format produced by a computer or other electronic device, subject to the fulfillment of the conditions specified in sub-section (2) of Section 65-B of the Evidence Act. Therefore when the conditions under the Act are satisfied, the electronic record becomes relevant and is

admissible in any trial or proceeding without further authentication and proving the same by producing the original, as evidence for any contents of the original or any fact stated of which direct evidence is admissible. The secondary form of evidence for the contents of a document can also be led under Section 65 of the Evidence Act. Upon the argument regarding the admissibility of DNA test, the apex Court concluded that:- The DNA test that was conducted after taking all measures and due care of quality proves that the accused were present on the bus and were also involved in the crime in every manner. The argument of the defense that certain samples were later on taken from the accused and planted on the deceased to prove the DNA aspect is to be rejected because it has no legs of relevancy and credibility to stand upon. The submission and the contention that the transfusion of blood has the potentiality to discredit the reliability of DNA test as it provides to two categories of DNA or two DNAs and is not acceptable and is far from the truth as there is no evidence on the other party to prove the same. On the contrary, the evidence in exclusivity points to the matching of the DNA of the deceased with that of the accused in many aspects. The evidence brought on record concerning fingerprints is impeccable and the trial court and the High Court have correctly placed ambit reliance on it and we, in our analysis, have found that there is no reason to disbelieve the same.

It was contended by the defense counsel that the DNA test of the accused cannot be relied upon as there is blood transfusion in the body of the victim as she required blood to survive and when there is mixing of blood the DNA cannot said to be accurate. The court has also rejected the objection of the defense upon Odontology test conducted on the accused. It was held by the Court that the evidence brought on record cogently establishes the injuries sustained by the prosecutrix and there is consistency between the injuries and the report. We are not inclined to accept the hypothesis that bite marks have been managed. Upon the argument, as to the admissibility of evidence of deontology the Court finally summed up that the odontology test shows the lust and cruelty of the accused at the same time the test also shows that how far the accused have proceeded as the bites have been found. Therefore it is extremely impossible to accept the argument that such a piece of evidence relating to odontology has been a manipulation by the investigating agency to rope in the accused persons.¹⁰

VI. CONCLUSION

No doubt the modern scientific developments have made a serious impact on the law of evidence. The interpretations of the technology which we use on daily basis are not that much easier as it seem to be whether it be clicking a photograph or recording a live video on your phone or taking medical

⁷ Section 3, The Indian evidence Act, 1872

⁸ Tanviben Pankajkumar Divetia v State of Gujarat,(1997) 7 SCC 156 / Anwar v State of Haryana (1997) 9 SCC 766

⁹ State of Haryana v Rampal (1999) 9 SCC 83

¹⁰ (2013) 2 SCC 587

services or gathering CCTV footage or using the web. Outside the courtroom whatever you collect thinking it be evidence of your case is of no value unless and until is corroborated by individual testimony and if a scientific question is evolved ative material available on the record.

then by the opinion of scientific expert. However, the court is not bound by the opinion of such expert and has to form its own opinion carefully based on the other corroboration.

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