Criminal Justice through DNA Technology

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Synopsis

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Abstract

An overview of how evidence and DNA Technology plays a very crucial role in determining the cases related to sexual assault. The research paper covers Criminal Justice System and its Administration, Administration of Social Criminal Justice, Role of Evidence, Inadequacy of Evidence, DNA evidence in rape cases and the advancement in Forensic Science. The method used for carrying out this research work is secondary research. DNA Technology has a potential to revolutionise the identification process. It helps in solving many serious crimes such as sexual assault, homicide etc.This paper will also give an idea about number of rules relating to admissibility and use of evidence which are directed towards minimizing the risk of wrongful convictions and acquittals. The major risks of error stem largely from the admission of unreliable or prejudicial evidence. Thus, the concept of free proof may allow the court to admit unreliable or prejudicial evidence, which leads to a hasty conclusion. The concept of free-proof also ignores the fundamental importance of procedural rights and the symbolic importance of trials. Public must have faith in the criminal Justice system and the verdicts that are delivered by it and this can only be the case if the trial is perceived to be a fair one and on the principles of natural justice. This research paper also projects that the evidence law is a key component of the right to a fair trial. The paper also discusses in detail the case of inadequacy of evidences leading to acquittal of transgressor.

Introduction

In most of the crimes, establishing identity of an individual, be it a victim of crime or suspect, becomes the backbone of police investigation. DNA has been, so far, the only infallible means available to meet this requirement to a limited extent. Recently, DNA, which has a distinct genetic code, has made a spectacular breakthrough in biotechnology. To a forensic scientist, it is the most important tool available for individualising and discriminating the biological evidence in forensic investigations.

The law of evidence may be explained as a system of rules for ascertaining debated questions of fact in judicial inquiries. It bears the same relation to a judicial investigation as logic of reasoning. The Act provides that in order to prove the existence and non- existence of facts in issue, certain other facts must be given in evidence. Evidence is what ultimately leads us to the truth; it is a part of life, a fact, a real or tangible thing that elucidates a proposition. To decide a case on merit evidence plays a very major role. In other words it directs the tribunal towards the action to be taken. In fact the entire justice model, both in civil and criminal matters, cannot operate without evidentiary analysis; it cannot advocate nor litigate without parameters and benchmarks; and it cannot issue findings or judgements with reliance upon the evidentiary form.

Criminal Justice System and its Administration

What is crime?

Crime is an act which the law forbids and for which the punishment is sanctioned upon the wrong-doers by the State. Criminal acts not only cause injury to an individual but to the public at large.

In ancient days, many wrongs which are today crimes were considered only acts against the person injured and their relatives and the compensation was a remedy. In course of development of human civilisation, these acts were considered as crimes because of gravity of their nature and adverse effect on the public peace and the acts were regarded as the acts against the public and consequently the punishment was provided by the state.

According to Taft and England, “Crime is but one form of social injury”.

According to Sir William Blackstone the crime is "an act committed or omitted in violation of public law forbidding or commanding it." He has also observed about the crime as 'a violation of the public rights and duties due to the whole community.'

According to Austin, "a wrong which is pursued at the discretion of the injured and his representatives is a civil injury, a wrong which is pursued by the sovereign or his subordinate is a crime."

Thorston Sellin defines a crime as "a violation of criminal law, i.e., a breach of the conduct of code specifically sanctioned by the state… The term 'crime' is often carelessly and erroneously used to designate any kind of behaviour as injurious to society, even though not defined by the criminal law."

Criminal Justice system refers to the departments of the Government entrusted with the responsibility of enforcing the law, deciding and settling crimes and controlling and correcting criminal conduct.It is an essential instrument of social control. The criminal Justice System provides for the mechanism which prevents doing of acts which are criminal in nature because these acts are regarded as being socially detrimental.

It is the job of the Criminal Justice System to prevent the commission of such acts by apprehending and sanctioning punishment to criminals.The feeling of social harmony and peace and sense of social safety is to be secured by the Criminal Justice System.

The developments taking place in the field of technology, industry, science, during the first half of the twentieth century brought many significant transformations in social and economic conditions of our country which resulted into various new knots relating to the administration of criminal justice.

Components or fields of Criminal Justice System

- LAW ENFORCEMENTS

Agencies responsible for receiving and documenting reports of crimes, conducting investigation, gathering and possessing evidence and arresting the alleged accused or other suspicious persons.

- PROSECUTION

Generally, in criminal cases, it's the prosecution that brings the action on behalf of the State against the alleged offender or alleged accused.

It was held in Hukum Singh V. State of Rajasthan that under section 226 Cr.P.C the Public Prosecutor has to state what evidence he proposes to adduce for proving the guilt of the accused.

With the rights of the prosecution, the rights of the offenders also play a crucial role in deciding the case on its merit which is a component of fair trial and Natural Justice.

Offender's Right:

- Right to have legal representation

The article 22(1) of the Constitution of India directs that the right to consult an attorney of his own choice shall not be denied to any person who is arrested. This does not mean that a person under no arrest or custody can be denied of that right. The spirit and sense of Article 22(1) is that it is fundamental to the rule of law that the services of a lawyer shall be available for consultation to any accused person.

- Right to a Speedy Trial

In Hussainara Khatoon v. State of Bihar, which formed the basis of the concept of the Speedy Trial, it was held that where under trial prisoners have been in jail for duration longer than prescribed, if convicted, their detention in jail is totally unjustified and in violation to fundamental rights under article 21. Inordinate delays violates article 21 of the constitution: for more than 11 years the trial is pending without any progress for no faults of the accused-petitioner. Expeditious right is a basic right to everybody and cannot be trampled upon unless any of the parties can be accused of the delay.

The right to speedy trial is an essential part of the fundamental right to Life and Liberty.

- Right to be informed regarding the proceedings

Making known to the accused reasons and grounds of his arrest is a constitutional requirement and failure to comply with this requirement renders the arrest illegal. It was held in Ajit Kumar v. State of Assam, that when a person arrested without warrant alleges by affidavit that he was not communicates with the full particulars of the offence leading to his arrest; in the face of this affidavit the police diary cannot be perused to verify the police officer's claim of oral communication of such particulars. No counter affidavit denying the petitioner's allegation was filed. Therefore even if such oral communication was made it is not clear whether full particulars were communicated or mere section was communicated. Hence the arrest and detention of that person was illegal.

- Right to be heard (audi altem partem)

No person shall be wrongly condemned, sanction punishment upon him or have any legal right compromised by any court of law without hearing him.

- JUDICIARY

The Judicial System makes the final determination and decision or rulings at each stage.

- CORRECTION

The object of punishment is to protect society from mischievous and undesirable elements by deterring potential offenders, by preventing the actual offenders from committing further offences and by reforming and turning them into law abiding citizens.

But, while we talk about administration of criminal justice, there are various factors which help in facilitating justice or at the same time causes obstruction of justice. While considering the administration of criminal justice, the major role played is of law of evidence. We have observed cases where an innocent person gets convicted as the evidence plays against him and a person guilty of a crime gets acquitted due to inadequacy of evidences.

Administration of Social Criminal Justice

For the Criminal Justice System to work effectively and for imparting social justice, there is a need of a rule of law against biasness so as to maintain the public's confidence in the legal system. The principles of Natural Justice and Fair Trial are the means for administering social criminal justice.

The basis of procedural protection in the English system is the principle of natural justice. Natural justice is not, despite its name, a general natural law concept; the name is a term of art that denotes specific procedural rights in the English system.' Natural justice includes two fundamental principles. The first, audi alteram partem, relates to the right to be heard; the second, nemo debet esse judex in propria sua causa or nemo judex in re sua, establishes the right to an unbiased tribunal. Although it has been suggested that there are other fundamental components of natural justice, such as the right to counsel, the right to a statement of reasons, the right to prior notice of the charges, and similar procedural safeguards, the generally accepted view is that these rights, if they exist at all, must be found as parts of the two basic principles and do not exist as separate rights.

Nowhere, in the Constitution of India, the expression 'Natural Justice' has been used, although its essence could be found throughout the body of our Indian Constitution. Preamble of the Constitution of India, which has been regarded as the key to open the minds of the makers, includes the words, 'Justice Social, Economic & Political', 'liberty of thought, belief, worship',.. And 'equality of status and of opportunity', which not only ensures fairness in social and economic activities of the people but also acts as a shield to individuals liberty against arbitrary action which is the base for principles of Natural Justice.

Constitutional provisions relating to principles of natural justice

- Article 14 – The state shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.

This article guarantees equality before law and equal protection of law. It prevents discrimination and prohibits discriminatory laws. Article 14 guarantees a right of hearing to the person adversely affected by an administrative order. In Delhi

Transport Corporation v. DTC Mazdoor Union, SC held that "the audi alteram partem rule, in essence, enforce the equality clause in Art 14 and it is applicable not only to quasi-judicial bodies but also to administrative order adversely affecting the party in question unless the rule has been excluded by the Act in question. Likewise in Maneka Gandhi v. Union of India, SC opined that Art 14 is an authority for the proposition that the principles of natural justice are an integral part of the guarantee of equality assured by Art. 14 an order depriving a person of his civil right passed without affording him an opportunity of being heard suffers from the vice of violation of natural justice.

- Article 21- Protection of life and personal liberty: No person shall be deprived of his life or personal liberty except according to procedure established by law.

In Maneka Gandhi v. Union of India, SC by realizing the implications of Gopalan during 1975 emergency held that, "Art. 21 mean that the procedure must satisfy certain requisites in the sense of being fair and reasonable. The procedure cannot be arbitrary, unfair or unreasonable." The concept of reasonableness must be projected in the procedure contemplated by article 21. The court has now assumed the power to adjudge the fairness and justness of procedure established by the law to deprive a person of his personal liberty.

Role of evidence

The word evidence is originated from the Latin word 'evidentia' which means to show clearly, to prove or to ascertain. In other words, evidence is something which serves to demonstrate or negate the presence or non-presence of a claimed truth. The party who claims the presence of a specific truth needs to demonstrate its reality and the parties who denies it, has to prove its non-existence.

The Indian evidence act, 1872 is largely based on the English law of evidence. The act has wide scope. Courts may look at the relevant English Common Law for interpretation as long as it is consistent with the Act. One of the major motives of the Evidences Act is to avert the incorrectness in the admissibility of evidence and to establish an appropriate rule of practise.

The issues that procedural law does not address are mentioned in Evidence Law. For Instance, procedural law does not focus on standard of proof, facts to be or not to be proved. These are left to the evidence law. The evidence law is not entirely a procedural law but share a common trait with procedural law as in both serves for the implementation of the substantive law.

Though the Act is a consolidating statute, yet it is not exhaustive. In addition to the general rules of evidence provided in the act, there are other rules of evidence relating to special subjects contained in other enactments, e.g. section4 of The Prevention of Corruption Act, (act 2 of 1947) and section 66(2) of the Bombay Prohibition Act, 1949, created new presumptions against the accused. Now it is not opened to the court to apply principles of equity, justice and good conscience in matters of evidence nor they can admit irregular evidence to throw light upon the issue. The principles of exclusion of evidence laid down in the act must be strictly applied and cannot be relaxed at the discretion of the court.

The different types of evidences are direct, circumstantial, hearsay, documentary, oral, scientific, real and digital. If one party in a legal proceeding admits guilt, then there is no doubt in settling the matter. The other party can also deny the accusations in the plaint and the existence of certain facts may be called into question. Then the parties or their witnesses have to give evidence in the court so that the court may decide whether the facts subsist or not. Interpretation of agreed facts is rare and in most cases the existence or non-existence of facts as to be shown and therefore, the law of evidence plays a very important role.

Illustration- X has entered into a contract with Y to sell his house for an amount of INR 20,500. In case of a breach of contract of contract by either X or Y, a Court of Law cannot decide the rights and liabilities unless the existence of such a contract is proved.

In G. Parshwanath v. State of Karnataka, the evidence tendered in a court of law is either direct or circumstantial. Evidence is said to direct if it consists of an eye-witness account of a fact in issue in a criminal case. On the other hand, circumstantial evidence is evidence of a relevant fact from which, one can, by

process of intuitive reasoning, infer about the existence of the fact in issue of factum probandum.

Lex Fori: or rule of the Place of Trial

The Evidence Act, 'being' an adjectival law, all questions of evidence must be decided according to the law of the forum in which the action is tried. Even where evidence is taken on commission or otherwise from abroad, its admissibility is determined by the Law of Evidence of the country where the action is being tried.

The Law of Evidence is the therefore, the lex fori, i.e., the law of the place where the question arises. Thus, "whether a witness is competent or not, whether a certain fact be proved by writing or not, whether a certain evidence proves a certain fact or not, that is to be ascertained by the law of country where the question arises, where the remedy is sort to be enforced, and where the court sits to enforce it." The law of evidence is essentially procedural law with overtons of substantive law in certain respects. For example, the doctrine of estoppel prevents a man from asserting his rights (sec. 115 of the Evidence Act).

Inadequacy of Evidence

In all criminal cases, the state has two burdens of proof- a burden of persuasion and a burden of production. To meet its burden of persuasion, the State must prove to the finder of fact, beyond a reasonable doubt, all facts necessary to establish the defendant's guilt of the charged offense.The state must produce all the witnesses and evidence efficiently so that the fact-finder can punish the accused persons beyond the shadow of doubt. The truth is unknown to the judicial body and it can only be revealed through the evidence produced by either party in a criminal proceeding. The Judiciary makes the final determination on the facts and circumstances which are backed by evidence and lack of evidence or inadequate evidence may result into either conviction of a wrongly accused or acquittal of a transgressor.

The case of State of Gujarat v. Kishanbhai projects how inadequacy of evidence sometimes leads to acquittal of a transgressor.

State of Gujarat v. Kishanbhai

A six years old girl (Gomi) was kidnapped by the accused (Kishanbhai) by enticing Gomi with a "gola" and thereupon took her to a nearby field, where he raped murdered her by inflicting injuries on her head and other body parts with bricks. He also amputated her feet just above her ankles in order to steal the anklets worn by her.

Based on the above-mentioned facts, confirmed through the investigation carried on by the police, a chargesheet was framed against the accused under sections 363, 369, 376, 394, 302 and 201 of the Indian Penal Code. The prosecution examined 14 witnesses and the Trial Court concluded that the prosecution had successfully proved its case beyond reasonable doubt and sentenced Kishanbhai to death, by hanging, subject to confirmation by the High Court of Gujarat.

The criminal appeal filed by the accused Kishanbhai was accepted by the High Court, which rendered a judgment of acquittal. Dissatisfied by the order of the High Court, the State of Gujarat approached the apex court by filing a Special Leave Petition.

In order to substantiate the guilt of the accused-respondent Kishanbhai, the learned counsel for the appellant tried to project that the prosecution was successful in demonstrating an unbroken chain of circumstances, clearly establishing the culpability of the accused. Despite the defects in investigation and the prosecution of the case, as also, the inconsistencies highlighted by the High Court in the evidence produced, the learned counsel for the State expressed confidence, to establish the guilt of the accused-respondent.

The learned counsel for the appellant submitted a report of the Forensic Science Laboratory which pointed out that the victim Gomi was shown to have blood group "B+ve" and according to the report, the blood stains on the articles gathered from the scene of crime (i.e. , bricks, panties worn by the deceased victim Gomi, the white shirt which was found on the body of the victim, the T-Shirt and the green trouser worn by the accused when he was arrested and even the weapon of the crime) were of blood group "B+ve".

According to the High Court, there were many lacunae/deficiencies during the course of investigation and prosecution such as lapse committed in production of certain witnesses, the report given by the medical officer relating to the medical examination of the accused Kishanbhai, was not produced by the prosecution before the Trial Court. The High Court expressed that the injuries suffered by Gomi would have resulted in reciprocal injuries to the male organ of the accused and if he had been sent for medical examination that would have revealed such injuries.

The High Court observed that the accused, when he was arrested, wore several injuries. Kishanbhai filed a First Information Report alleging that he was beaten by some of the relatives of the victim.

According to High Court, blood of group "B+ve" was found on the clothes of the accused. The important question to be determined thereupon was, whether it was his own blood or the blood of the victim Gomi. Lack of evidence constitutes a serious lapse in the investigation/prosecution of the case. Also, the absence of semen or the blood from the pubic hair of the accused-respondent would prima-facie exculpate him from the offence of rape.

The High Court in the instant case apparently projected a version including an act of rape which is impossible to accept on the touchstone of logic and common sense.

High Court noticed that in the absence of direct oral evidence, the prosecution's case almost wholly rested on some witnesses whose testimonies are unreliable because of the glaring inconsistencies in their statements and considered it just and appropriate to grant the accused-respondent the benefit of doubt.

The Supreme Court while dismissing the appeal stated that there is a serious impression of fudging and padding at the hands of the agencies involved. The lack of truthfulness of the statements of the witnesses and systematically shattered evidence, demolished the prosecution's case.

The Bench consisting of J. Chandramauli Kr. Prasad and J. Jagdish Singh Khehar stated.-

"The investigating officials and the prosecutors involved in presenting this case have miserably failed in discharging their duties. They have been instrumental in denying

serving the cause of justice. The misery of the family of the victim Gomi has remained unredressed. The perpetrators of a horrendous crime, involving extremely ruthless and savage treatment to the victim, have remained unpunished. A heartless and merciless criminal, who has committed an extremely heinous crime, has gone scot-free. He must be walking around in Ahmedabad, or some other city/town in India, with his head held high. A criminal on the move, fearless and fearsome. Fearless now, because he could not be administered the punishment, he ought to have suffered and fearsome, on account of his having remained unaffected by the brutal crime committed by him. His actions now, know of no barriers. He could be expected to act in an unfathomable savage manner, uncomprehendable to a sane mind.

We could not serve the cause of justice, to an innocent child. We could not even serve the cause of justice, to her immediate family. The members of the family of Gomi must never have stopped cursing themselves, for not adequately protecting their child from a prowler, who had snatched an opportunity to brutalise her, during their lapse in attentiveness.

Every time there is an acquittal, the consequences are just the same, as have been noticed hereinabove. The purpose of justice has not been achieved. There is also another side to be taken into consideration. We have declared the accused-respondent innocent, by upholding the order of the High Court, giving him the benefit of doubt. He may be truly innocent, or he may have succeeded because of the lapses committed by the investigating/prosecuting teams. If he has escaped, despite being guilty, the investigating and the prosecution agencies must be deemed to have seriously messed it all up. And if the accused was wrongfully prosecuted, his suffering is unfathomable. Here also, the investigating and prosecuting agencies are blameworthy. It is therefore necessary, not to overlook even the hardship suffered by the accused, first during the trial of the case, and then at the appellate stages. An innocent person does not deserve to suffer the turmoil of a long drawn litigation, spanning over a decade, or more. The expenses incurred by an accused in his defence can dry up all his financial resources – ancestral or personal. Criminal

litigation could also ordinarily involve financial borrowings. An accused can be expected to be under a financial debt, by the time his ordeal is over.

The situation referred to above needs to be remedied. For the said purpose, adherence to a simple procedure could serve the objective. We accordingly direct, that on the completion of the investigation in a criminal case, the prosecuting agency should apply its independent mind, and require all shortcomings to be rectified, if necessary by requiring further investigation. It should also be ensured, that the evidence gathered during investigation is truly and faithfully utilized, by confirming that all relevant witnesses and materials for proving the charges are conscientiously presented during the trial of a case. This would achieve two purposes. Only person, against whom there is sufficient evidence, will have to suffer the rigors of criminal prosecution. By following the above procedure, in most criminal prosecutions, the concerned agencies will be able to successfully establish the guilt of the accused."

The above mentioned case is a perfect example where lacunae/inconsistencies in the investigation and prosecution of a case and discrepancies or insufficiency of evidence sometimes result into acquittal of guilty persons which is socially damaging. Every such acquittal is a failure of the criminal justice system of our country in serving the cause of justice. The situation referred in the case needs to be remedied. The investigators and prosecutors should apply their minds and correct each and every fault by making furtherinvestigation. The agencies should also ensure that the evidence gathered during investigation are reliable and can be faithfully utilised. Therefore, it is very essential for the state to provide a mechanism which would confirm that the cause of justice is efficiently and effectively imparted

DNA Evidence: Cases of Rape

The word rape is derived from the Latin term 'rapio', which mean 'to seize'. In other words, rape literally means a forcible seizure, "as the ravishment of a woman without her consent, by force, fear, or fraud" or "the carnal knowledge of a woman by force against her will."

Section 375 of Indian Penal Code (IPC) as written below:

"A man is said to commit "rape" who, except in the case hereinafter excepted, has sexual intercourse with a woman under circumstances falling under any of the six following descriptions:-

First: Against her will.

Secondly: Without her consent.

Thirdly: With her consent, when her consent has been obtained by putting her or any person in whom she is interested in fear of death or of hurt.

Fourthly: With her consent, when the man knows that he is not her husband, and that her consent is given because she believes that he is another man to whom she is or believes herself to be lawfully married.

Fifthly: With her consent, when, at the time of giving such consent, by reason of unsoundness of mind or intoxication or the administration by him personally or through another of any stupefying or unwholesome substance, she is unable to understand the nature and consequences of that to which she gives consent.

Sixthly: With or without her consent, when sixteen years of age.

Explanation: Penetration is sufficient to constitute the sexual intercourse necessary to the offence of rape.

Exception: Sexual intercourse by a man with his own wife, the wife not being under fifteen years of age, is not rape."

Evidence plays a very critical role in the offence of rape. The main issues that are usually discussed in the matter of Rape are complaint, proof of want of consent, the need for corroboration of the testimony of the victim, and the evidence of character of the victim, and other improper questions.

DNA evidence is playing a significant role in criminal cases. It helps to convict the transgressors and absolve the wrongly accused or wrongly convicted.

What is DNA?

DNA is the short form for deoxyribonucleic acid. DNA is the basic building block for the human body and our human cells carries DNA and never changes throughout a human's life.

Value of DNA Evidence

DNA is a very important investigative tool which serves the purpose of determining the connection of a person with a crime as no two people, with the exception of identical twins, have the same DNA. DNA evidence is capable of ligamenting a suspect or can exclude a suspect from dubiety.

Generally, in sexual offences, biological evidences, such as semen, skin cells, blood or hair may be left on the body of the victim or at the crime scene. Such evidence, when gathered properly, can be compared with the samples to locate a suspicious person at the crime scene. Therefore, the collection and analysis of samples is necessary and required for the effective usage of DNA evidence.

DNA Testing

The usual form of DNA analysis is termed Polymerase Chain Reaction (PCR). PCR provides for the investigators to successfully anatomize evidence samples of definite quality and quantum. A million copies of very small measure of DNA are made in PCR process and it enables the laboratories to effectuate a DNA profile which can be analogized with the DNA profile from a suspicious person.

Interpretation of DNA Results

The DNA testing can result into three conclusions:

- Inclusion

Inclusion is when the DNA profile of a victim, casualty or suspect is accordant to the DNA profile from the crime scene evidence.

It basically includes the suspect with the incident or the crime scene. For example- the semen and the skin cells found on the body of the victim and the DNA so generated from such biological evidence matches with the DNA profile of the alleged accused.

- Exclusion

Where the DNA profile from a victim, casualty or suspect clashes or conflicts with the DNA profile developed from the evidence gathered from the crime scene, the individual is eliminated as the donor of the evidence.

In general speaking, when the DNA testing results into inconsistency of the DNA profile of a person under suspicion, with the DNA generated from the biological

evidence gathered from a crime scene, it is called exclusion. For example- the DNA generated from the blood stains found on the clothing of the victim, does not matches with the DNA profile of an alleged accused, he is said to be excluded from the suspicion.

- Inconclusive

Results in such a case indicate that DNA testing could neither include nor exclude a person as the source of biological evidence. For example- quality and quantity of DNA may be inadequate or sample is a mixture of DNA from several suspects.

Advance DNA technology, such as PCR, is capable of giving conclusive results in cases where prior testing might have been inconclusive.

Technological upgradation that has been made in the field of medical science resulted into further reliability, efficiency and acceptability. DNA evidence can provide assistance to convict the transgressor and acquit the innocent and exonerate those wrongly convicted. The evolution in forensic or medical science has completely transformed the entire process of investigation and has made deterring of offenders more effortless. Especially in murderous cases and sexual offences, DNA evidence is playing a crucial role in imparting justice by giving a clear picture about the involvement of a person with a crime or dissociation of a person wrongly condemned.

Admissibility of DNA Evidence

In Neeraj Sharma v. Slate of U.P., the High Court of Allahabad has ruled that taking of hair sample comes within the ambit of medical examination of the accused and a Magistrate or a Court trying the case has powers to direct such examination or sample of hair, blood, nails etc. where there is reasonable ground to believe that such examination will afford evidence as to commission of an offence.

The Court further held that such an examination is not violative of the constitutional provision of Article 20 (3) and that a person cannot be said to have been compelled "to be a witness" against himself if he is required to undergo medical examination under Section 53 of The Code.

The medical examination contemplated by section 53 of Cr.P.C is not confined only to the examination of the skin or visible part of the body but also includes examination of some organs inside the body for the purpose of collecting evidence. It also includes x-ray examination or taking electro-cardiograph, serum, urine, sputum, blood etc. depending upon the nature of the case.

Development in Forensic Science

"…the application of science to those criminal and civil laws that are enforced by police agencies in the criminal justice system." R. Saferstein

Forensic science is derived from the Latin word 'forensic 'which means belonging to courts of justice or to public discussion. The development of forensic science has provided a powerful tool in the hands of the law enforcement agencies and the judiciary.

Forensic science covers many scientific branches, including physics, chemistry, and biology, with its focus being on the recognition, identification, and evaluation of physical evidence. It has become an essential part of the judicial system, as it takes advantage of a broad spectrum of sciences to achieve facts pertinent to criminal and legal evidence.

Forensic science may establish the existence of a crime through the examination of physical evidence, administration of tests, interpretation of data, clear and concise reporting and truthful testimony of a forensic scientist. Forensic science has turned out to be an essential part of many criminal cases with objective facts serving both defence and prosecution arguments. The assertion made by the forensic scientists has become a trusted component of many cases both civil and criminal, as their assertions are only based on scientific facts.

In India, development of scientific institutions aiding crime detection came close on the heels of it in the western countries. In the beginning there existed Chemical Examiner Laboratories, which were set up by the British rulers at Madras, Calcutta, Agra and Bombay in the second half of the 19th Century. The first Fingerprint Bureau of the world was established in 1897 at Calcutta. Besides this, scientific sections were created under the State CIDs to carry out limited and rudimentary scientific

examinations of firearms, footprints etc. These facilities were far from the satisfactory and created very less impact on criminal justice administration.

After independence, there was great awareness of the need to modernize crime investigation methods and criminal justice in our country. A Central Advisory Committee on Forensic Science was formed under the M.H.A. in the year 1959. In pursuance of the recommendations of this committee, organised State Forensic Science Laboratories were established in Bombay, Madras, and Punjab etc. The Central Advisory Committee on Forensic Science' was revitalised in 1972 to serve as an apex body to advice the Government on the development of Forensic Science in the country.

At present there are eighteen State Forensic Laboratories. These laboratories have been found inadequate to render prompt and efficient services. This prompted many States like Tamil Nadu, Gujarat and Uttar Pradesh etc. to extend the facilities the regions by setting up Regional Forensic Science Laboratories. Thus it can be seen that there has been a constant endeavour to serve and strengthen the administration of Criminal Justice.

There has been a great advancement in scientific investigation on the both civil and criminal matters. Looking to the advancement in the field of medical science it is essential for the investigating agencies that they should sought DNA profiling of the blood in such a manner that it gives a clear picture of the relation between the accused and the victim. The ABO system of blood grouping is one of the most essential system, which is being used for distinguishing blood of different persons, there are about 19 genetically determined blood grouping systems known to the science of new era, and it is also known that there are about 200 different blood groups, which have been identified by the modern scientific methods. Still there are many situations in which in spite of so much advancement in the field of forensic science, the investigating agency have seriously erred in carrying out an effective investigation to genuinely determine the culpability of the accused.

Conclusion

Rape is one of the worst crimes and is a great disrepute to the womanhood's dignity. The offence of rape not only injures the dignity of a female but also inflicts physical and mental injuries. In such cases, the criminal justice system requires to be efficient and effective in serving the cause of justice and should provide for a procedural mechanism to ensure that no criminal walks freely due to insufficiency and inadequacy of evidence or due to any latches or inconsistencies by the investigating agencies and prosecution. DNA evidence has completely transformed the criminal justice system of our country. It has also become a great assistant to the agencies dealing with the enforcement of law in pinpointing criminals without any harsh methods. The legal system, within a very short period of time, has realised that DNA Evidence is highly capable of providing precise results towards the convoluted identification of suspects and victims in criminal trials and especially in offences related to sexual assault. Day-to-day advancements in the field of forensic science and will continue to be a powerful evidence against criminals.