

Application of Modern Scientific Techniques In The Investigation of Crimes

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1.01. Importance of proper & scientific investigation of crimes : The crime scene has to be scientifically dealt with without any error. In criminal cases, especially based on circumstantial evidence, forensic science plays a pivotal role, which may assist in establishing the element of crime, identifying the suspect, ascertaining the guilt or innocence of the accused. One of the major activities of the investigating officer at the crime scene is to make thorough search for potential evidence that have probative value in the crime. The investigating officer may be guarded against potential contamination of physical evidence which can grow at the crime scene during collection, packing and forwarding. Proper precaution has to be taken to preserve evidence and also against any attempt to tamper with the material or causing any contamination or damage. The criminal justice system in this country is at crossroads. Many a times, reliable, trustworthy, credible witnesses to the crime seldom come forward to depose before the court and even the hardened criminals get away from the clutches of law. Even the reliable witnesses for the prosecution turn hostile due to intimidation, fear and host of other reasons. The investigating agency has, therefore, to look for other ways and means to improve the quality of investigation, which can only be through the collection of scientific evidence. In this age of science, we have to build legal foundations that are sound in science as well as in law. Practices and principles that served in the past, now people think, must give way to innovative and creative methods, if we want to save our criminal justice system. Emerging new types of crimes and their level of sophistication, the traditional methods and tools have become outdated, hence the necessity to strengthen the forensic science for crime detection. Oral

evidence depends on several facts, like power of observation, humiliation, external influence, forgetfulness etc. Whereas forensic evidence is free from those infirmities. Judiciary should also be equipped to understand and deal with such scientific materials. Constant interaction of Judges with scientists, engineers would promote and widen their knowledge to deal with such scientific evidence and to effectively deal with criminal cases based on scientific evidence. It is not that in all cases the scientific evidence is the sure test, but the necessity of promoting scientific evidence also to detect and prove crimes over and above the other evidence, cannot be underestimated. Scientific evidence encompasses the so-called hard science, such as physics, chemistry, mathematics, biology and soft science, such as economics, psychology and sociology. Opinions are gathered from persons with scientific, technical or other specialized knowledge, whose skill, experience, training or education may assist the court to understand the evidence or determine the fact in issue. Many a times, the court has to deal with circumstantial evidence and scientific and technical evidence often plays a pivotal role. See : **Dharam Deo Yadav Vs. State of UP, (2014) 5 SCC 509.**

- 1.02. Consequences of deficiency into investigation** : It is often noticed by the courts dealing with the criminal cases that the investigating officers commit many mistakes and latches in the investigation of crimes and such mistakes and shortcomings continue to be unnoticed and unchecked upto the police officers of the higher levels of the police department. Some of the mistakes and the shortcomings often left behind by the investigating agencies is sometimes due to ignorance of exact and real position of law, judicial pronouncements of the courts particularly of the Supreme Court and the own High Court and sometimes because of neglectful attitude, carelessness and other extraneous reasons. Lack of proper training to augment the efficiency and performance level of the police personnel engaged in the task of investigations and also for non-availability and non-supply of the relevant legal material and the judicial pronouncements of courts to the investigating agencies do hamper the course of proper and effective investigation of crimes. The result of incomplete or defective investigations

often results into the acquittal of the accused even if he was involved in commission of heinous offences. With the change of technology and fast pace of development in the pattern of commission of different natures of crimes, the criminals have also not only gone high tech in the commission of the offences but in many cases it is often noticed that the technically educated criminals are much ahead than the police in the commission of offences and getting spared because of the laxity of and ignorance of modern techniques of crime detections on the part of investigating agencies. The fact of the police force being ill equipped and under staffing of the police agency alongwith the lack of proper training particularly relating to the laws concerning the process of investigation are also the major causes attributing towards the incomplete and defective investigations. The shortcomings, loopholes and weaknesses that are left behind by the investigating agencies in the investigation of crimes do make the case set-up by the prosecution in the court is ultimately found on weak footings and the perpetrators of the crimes stand benefited in terms of getting scot-free of their liability. The ultimate sufferer of such weak and defective investigations are not only the victims of the offence or their dependents but society as a whole is the ultimate sufferer of the same. The role of the courts starts and depends upon the edifice of a criminal case built and set-up by the investigating agencies. The fate of the criminals and their cases in the court depends upon the quality of investigations and the evidence collected against them by the investigating agencies during the investigating of crimes. Unless the police personnel engaged in the task of investigation of crimes are aware of need of collection of relevant and material evidence against the criminals during the investigations and that too keeping in view the nature and magnitude of the offences committed by the offenders, the charge sheet or the case submitted and set-up by the investigating agencies before the court would be weaker and chances of deriving its benefit by the accused would be higher. The task of collection of relevant and material evidence according to the nature and requirement of particular offences is the duty of the investigating agencies and if they have failed in doing that with required level of professionalism and efficiency, the courts during enquiry and

trial of such cases set-up on weaker footings can play only very little role in preventing the harm being caused to the cause of justice. The proper investigation of crimes is therefore not only necessary for proper prosecution of the accused persons but also for success of the investigating agencies in the trial of cases.

1.03. Scientific tests generally applied for investigation of crimes : Scientific tests which are generally applied for the detection of crimes and criminals and determination of paternity etc. are as under :

- (i) DNA (Deoxyribo Nucleic Acid)
- (ii) RNA (Ribo Nucleic Acid)
- (iii) Lie-Detector Test
- (iv) Polygraph Test
- (v) Brain-Mapping Test (P300)
- (vi) Narco Analysis Test (Also known as Truth Serum Test)
- (vii) Voice Analysis Test
- (viii) Finger Print Test
- (ix) Handwriting Test
- (x) Ballistic & Explosives Tests

1.04. Pre-conditions for the admissibility of scientific evidence : The admissibility of the result of a scientific test will depend upon its authenticity. Whether the brain mapping test is so developed that the report will have a probative value so as to enable a court to place reliance thereupon, is a matter which would require further consideration, if and when the materials in support thereof are placed before the court. Referring to the **US Supreme Court decisions in the cases of Frye vs. United States, (293F1013 DCcir 1923) and Daubart vs. Merryll Dow Pharmaceuticals Inc., 113SCt. 2786 (1993)**, it has been ruled by the Supreme Court of India that the pre-conditions for the admissibility of the scientific evidence (u/s. 45 of the Evidence Act) are as under--

- (i) Whether the principle or technique has been or can be reliably tested?
- (ii) Whether it has been subject to peer review or publication?
- (iii) It's known for potential rate of error?

- (iv) Whether there are recognized standards that control the procedure of implementation of the technique?
- (v) Whether it is generally accepted by the Community?
- (vi) Whether the technique has been introduced or conducted independently of the litigation? See : **Ranjitsing Brahmajetsing Sharma vs. State of Maharashtra, 2005 CrLJ 2533 (SC) (Three-Judge Bench)**

2. **Procedures & powers of police officers for investigation of crimes** : Sec. 154 to 176 of the Cr.P.C. provides for the powers and procedures of the investigating officers for conducting investigation of crimes. These sections in Cr.P.C. are as under :

- Sec. 154--- Information in cognizable cases.
- Sec. 155--- Information as to non-cognizable cases and investigation of such cases.
- Sec. 156--- Police officer's power to investigate cognizable case.
- Sec. 157--- Procedure for investigation.
- Sec. 158--- Report how submitted.
- Sec. 159--- Power to hold investigation or preliminary enquiry.
- Sec. 160--- Police officer's power to require attendance of witnesses.
- Sec. 161--- Examination of witnesses by police.
- Sec. 162--- Statements to police not to be signed & used as evidence.
- Sec. 163--- No inducement to be offered.
- Sec. 164--- Recording of confessions and statements.
- Sec. 164-A-- Medical examination of the victim of rape.
- Sec. 165--- Search by police officer.
- Sec. 166--- When officer-in-charge of police station may require another to issue search-warrant.
- Sec. 166-A-- Letter of request to competent authority for investigation in a country or place outside India.

- Sec. 166-B-- Letter of request from a country or place outside India to a Court of an authority for investigation in India.
- Sec. 167--- Procedure when investigation cannot be completed in twenty-four hours.
- Sec. 168--- Report of investigation by subordinate police officer.
- Sec. 169--- Release of accused when evidence deficient.
- Sec. 170--- Cases to be sent to Magistrate when evidence is sufficient.
- Sec. 171--- Complainant and witness not to be required to accompany police officer and not to be subjected to restraint.
- Sec. 172--- Diary of proceedings in investigation.
- Sec. 173--- Report of police officer on completion of investigation.
- Sec. 174--- Police to enquire and report on suicide, etc.
- Sec. 175--- Power to summon persons.
- Sec. 176--- Inquiry by Magistrate into cause of death.

3. **Certain major factors responsible for defective investigations** : Investigating officers commit many mistakes and leave behind many shortcomings during the investigation of crimes. Certain important causes behind such defective investigations are enumerated as under :

- (i) Ignorance of the relevant law relating to investigations.
- (ii) Lack of proper training of the investigating officers.
- (iii) Non-availability of scientific and technical assistance.
- (iv) Work load
- (v) Non-professionalism & perfunctory approach towards investigation.
- (vi) Delayed reaching to the scene of crime.
- (vii) Transfer and change of investigating officers during investigations.
- (viii) Investigating agencies being ill equipped.
- (ix) Non-accountability of I.Os. in the event of loosing the case.
- (x) Extraneous factors.

4. **Incomplete or defective investigation & its effect ?** : Any irregularity or deficiency in investigation by I.O. need not necessarily lead to rejection of the

case of prosecution when it is otherwise proved. The only requirement is use of extra caution in evaluation of evidence. A defective investigation cannot be fatal to prosecution where ocular testimony is found credible and cogent :

1. C. Muniappan Vs. State of TN, 2010 (6) SCJ 822
2. Acharaparambath Pradeepan vs. State of Kerala, 2007(57) ACC 293 (SC)
3. Dhanaj Singh vs. State of Punjab, (2004) 3 SCC 654
4. Dashrath Singh vs. State of U.P., (2004) 7 SCC 408
5. Visvesaran vs. State, (2003) 6 SCC 73
6. State of Rajasthan vs. Teja Ram, 1999(38) ACC 627 (SC)
7. Leela Ram vs. State of Haryana, (1999) 9 SCC 525

5.01. Blood stained earth & clothes etc. not taking into possession from the spot :

It is often seen that the investigating officers do not collect blood stained earth, clothes and other incriminating articles from the scene of the crimes which casts shadow of doubt on the case of prosecution. However if the case of prosecution is otherwise proved beyond all reasonable doubts by the ocular reliable testimony or by credible circumstantial evidence, the liability for guilt can still be fastened to the neck of the accused even if the blood stained earth, clothes, weapons etc. from the place of occurrence were not taken by the investigating officer into possession and not sent for examination to expert and not produced before the court during trial. See :

1. State of W.B. vs. Swapan Kumar, 2009 Cr.L.J. 3851 (Cal.—D.B.)
2. Dhanaj Singh vs. State of Punjab, (2004) 3 SCC 654

5.02. Blood stained earth & clothes when not sent for chemical examination & its effect? :

Non sending of blood stained earth and clothes of the deceased or injured to chemical examiner for chemical examination is not fatal to the case of the prosecution if the ocular testimony is found credible and cogent. See :

1. Maqbool vs State of A.P., AIR 2011 SC 184.
2. Sheo Shankar Singh vs. State of Jharkhand, 2011 CrLJ 2139(SC)
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6. Police personnel as witness & their reliability : The testimony of police personnel should be treated in the same manner as testimony of any other witness. There is no principle of law that without corroboration by independent witnesses, the testimony of police personnel cannot be relied on. The presumption that a person acts honestly applies as much in favour of a police personnel as of other persons and it is not a proper judicial approach to distrust and suspect them without good reasons. See :

1. Tejpal vs. State of U.P., 2005(53) ACC 319 (Allahabad—D.B.)
2. Karanjeet Singh vs. State of Delhi Administration, 2003(46) ACC 876 (SC)
3. Praveen Kumar vs. State of Karnataka, 2003(47) ACC 1099 (SC)
4. State Govt. of NCT of Delhi vs. Sunil & others, 2001(1) SCC 652
5. Revindra Santaram Sawant vs. State of Maharashtra, AIR 2002 SC 2461

7. Effect of non recovery of dead body & absence of PMR : Where murder of deceased by accused persons was proved by direct evidence of mother, sister and neighbour of deceased, dead body was taken away by the accused and could not be recovered and Post Mortem not done, blood stained mud and Lungi seized by I.O. but not produced, I.O. not examined then the Supreme Court held that non-production of these items did not cause any prejudice to the

convicts/appellants and their conviction by trial court based upon direct evidence was proper. See : **Ram Gulam Chowdhary vs. State of Bihar, 2001 (2) JIC 986 (SC)**

8. **Injuries of the accused and their explanation** : If the accused has also sustained injuries during the same occurrence and the nature of such injuries on the person of the accused is not artificial and simple but severe in nature, it requires an explanation in the case diary as to how the accused sustained those injuries. The investigating officers should therefore require an explanation from the witnesses in their statements u/s 161 CrPC regarding the injuries of the accused otherwise it casts a doubt over the veracity of the case of the prosecution. See :

1. Mahesh vs. State of Maharashtra, (2009) 3 SCC (Criminal) 543
2. Shaikh Majid vs. State of Maharashtra, 2008 (62) ACC 844 (SC)
3. Krishan vs. State of Haryana, (2007) 2 SCC (Cri) 214
3. Sukumar Roy vs. State of W.B., AIR 2006 SC 3406;
4. Bheru Lal vs. State of Rajasthan, 2009 (66) ACC 997 (SC)
5. Sucha Singh vs. State of Punjab, 2003(47) ACC 555 (SC)

9.01. **Weapons of assault, cartridges & pellets when not sent for ballistic examination & its effect?** : In many criminal cases an explanation from the I.O. may be required for not sending the weapons of assault, pellets or cartridges etc. recovered from the place of occurrence to their experts for examination. However non sending of weapons of assault, cartridges and pellets to ballistic experts for examination would not be fatal to the case of the prosecution if the ocular testimony is found credible and cogent. See :

1. Mano vs. State of T.N., (2007) 13 SCC 795
2. State of Punjab vs. Hakam Singh, 2005(7) SCC 408
3. Dhanaj Singh vs. State of Punjab, (2004) 3 SCC 654

9.02. **Weapons of assault, cartridges, empties & pellets when not sent for ballistic examination & its effect?** : Non sending of weapons of assault, cartridges and pellets to ballistic experts for examination would not be fatal to

the case of the prosecution if the ocular testimony is found credible and cogent.

See :

1. Maqbool vs State of A.P., AIR 2011 SC 184
2. State of Punjab vs. Hakam Singh, 2005(7) SCC 408
3. Dhanaj Singh vs. State of Punjab, (2004) 3 SCC 654

9.03. Ballistic expert's non-examination & its effect : Where the eye witnesses had stated in their depositions before court that the accused had fired at the deceased from double barrel gun but the I.O. stated that the gun seized was not in working condition and therefore he did not find it necessary to send the same to ballistic expert for his opinion, it has been held by the Supreme Court that non-examination of ballistic expert cannot be said to have effected the reliability of eye witnesses. See :

1. Ramakant Rai vs. Madan Rai, 2004 (50) ACC 65 (SC)
2. State of Punjab vs. Jugraj Singh, AIR 2002 SC 1083

9.04. Police personnel can also be treated as ballistic experts : Police personnel having certificate of technical competency and armour technical course and also having long experience of inspection, examination and testing of fire arms and ammunition must be held to be an expert in arms u/s. 45 of the Evidence Act. See : **Brij Pal vs. State of Delhi Administration, (1996) 2 SCC 676**

9.05. Ballistic experts opinion & its appreciation : Where the ballistic expert had given opinion that the empty cartridges recovered from the spot of occurrence matched with the injury, it has been held that it was a valuable piece of evidence and could not be brushed aside. See : **Leela Ram vs. State of Haryana, (1999) 9 SCC 525**

9.06. Ballistic experts opinion & ocular testimony when contrary : Where the eye witnesses of the murder had stated that the injuries from the firing of the pistol were on leg of the deceased but the post mortem report indicated the injury on part slightly higher than the thigh and there was nothing on record to impeach the testimony of the eye witnesses, it has been held that in the absence of ballistic experts opinion and contradictions regarding the position of injuries, it

would not be sufficient to discard the trustworthy testimony of the eye witnesses. See : Ajay Singh vs. State of Bihar, (2000) 9 SCC 730.

9.07. Weapons of assault, cartridges, empties & pellets when not sent for ballistic examination & its effect? : Non sending of weapons of assault,

cartridges and pellets to ballistic experts for examination would not be fatal to the case of the prosecution if the ocular testimony is found credible and cogent.

See :

1. **Maqbool vs State of A.P., AIR 2011 SC 184**
2. **State of Punjab vs. Hakam Singh, 2005(7) SCC 408**
3. **Dhanaj Singh vs. State of Punjab, (2004) 3 SCC 654**

9.08. Non-recovery of weapon from accused not material : When there is ample unimpeachable ocular evidence corroborated by medical evidence, mere non-recovery of weapon from the accused does not affect the prosecution case relating to murder. See : **Mritunjoy Biswas Vs. Pranab alias Kuti Biswas & another, AIR 2013 SC 3334**

10.01. Doctor's opinion as medical expert u/s 45 Evidence Act & its evidentiary value? : As per Sec. 45, Evidence Act a doctor is a medical expert. It is well

settled that medical evidence is only an evidence of opinion and it is not conclusive and when oral evidence is found to be inconsistent with medical opinion, the question of relying upon one or the other would depend upon the facts and circumstances of each case. See : Mahmood vs. State of U.P., AIR 2008 515

10.02. Court not bound by the opinion of Medical Expert : If the opinion given by one Doctor is bereft of logic or objectivity or is not consistent with probability, the court has no liability to go by that opinion merely because it is said by a doctor. The opinion given by a medical witness need not be the last word on the subject and such an opinion shall be tested by the Court. See....State of Haryana Vs. Bhagirath, AIR 1999 SC 2005

10.03. Discussion of injuries must in judgments : Vide (i) C.L. No. 13/VII-47, dated 3.3.1982, (ii) C.L. No. 4/2003, dated 20.2.2003 & (iii) C.L. No. 33, dated 28.9.2004, the Hon'ble Allahabad High Court has directed all the trial judges and magistrates in the State of U.P. that the Post Mortem Report and medical examination reports must be quoted in the judgments and properly discussed failing which High Court shall take serious note of the omissions.

10.04. Medical evidence when showing two possibilities : Where medical evidence shows two possibilities, the one consistent with the reliable direct evidence should be accepted. See : Anil Rai vs. State of Bihar, (2001) 7 SCC 318

10.05. Conflict between ocular and medical evidence—How to reconcile? : If the direct testimony of eye witnesses is reliable, the same cannot be rejected on hypothetical medical evidence and the ocular evidence, if reliable, should be preferred over medical evidence. Opinion given by a medical witness (doctor) need not be the last word on the subject. It is of only advisory character. Such an opinion shall be tested by the court. If the opinion is bereft of logic or objectivity, the court is not obliged to go by that opinion. If one doctor forms one opinion and another doctor forms a different opinion on the same fact, it is open to the Judge to adopt the view which is more objective or probable. Similarly if the opinion given by one doctor is not consistent with the probability, the court has no liability to go by the opinion merely because it is said by the doctor. Of course, due weight must be given to the opinions given by persons who are experts in the particular subject. See :

1. Abdul Sayeed Vs. State of M.P, (2010) 10 SCC 259
2. Chhotanney vs. State of U.P., AIR 2009 SC 2013
3. Mallappa Siddappa vs. State of Karnataka, 2009 (66) ACC 725 (SC)
4. Mahmood vs. State of U.P., AIR 2008 SC 515
5. Vishnu vs. State of Maharashtra, 2006 (54) ACC 554 (SC)
6. State of Punjab vs. Hakam Singh, (2005) 7 SCC 408
7. Anwarul Haq vs. State of U.P., 2005 (4) SCJ 516
8. Anil Rai vs. State of Bihar, (2001) 7 SCC 318
9. State of Haryana vs. Bhagirath & others, (1999) 5 SCC 96
10. Adya Singh vs. State of Bihar, 1998 (37) ACC 527 (SC)
11. State of U.P. vs. Harban Sahai, 1998 (37) ACC 14 (SC)

- 10.06. When PW & PMR contrary on number of gun shots fired & gun shot injuries** : Where the PW had stated that only single shot from double barreled gun was fired but medical evidence clearly showing that the deceased had suffered multiple gun shot injuries, it has been held that a single shot can cause multiple injuries & in such cases there can be no inconsistency in between the medical evidence and the ocular evidence See... Om Pal Singh Vs. State of UP, AIR 2011 SC 1562
- 10.07. when direction of bullet changes inside of body on being hit to bones** : Where there was difference in the ocular & medical evidence regarding the direction of the gun shot injuries/pellets, it has been held that once pellets hit a hard substance like hummers bone they can get deflected in any direction and it can not be said that there is any inconsistency between medical ocular evidence. See : 2011 CrLJ 280 (SC).
- 11.01. Investigating officer must obtain viscera report from the toxicologist and produce it before the court for proving death by poisoning:** In the case of death by poisoning, prosecution is required to prove following ingredients against the accused :
- (1) that the death took place by poisoning
 - (2) that the accused had poison in his/their possession
 - (3) that the accused had an opportunity to administer the poison.
- See : **Moinuddin vs. State of U.P., 2004 (50) ACC 244 (Allahabad—D.B.)**
- Note:** In this case the poison (powder) recovered by police at the instance of the accused while in police custody was described as “Potash” but an analysis by chemical examiner was found to be “Sodium Cyanide”. Conviction recorded by trial court was, therefore, set aside by High Court. The investigating officers should therefore must obtain viscera report from the toxicologist and produce it in the court alongwith the charge sheet otherwise the cause of death not being known and proof, liability of the accused cannot be held.
- 11.02. Death by poisoning & circumstantial evidence** : Where accused doctor made his father-in-law and mother-in-law and their 3 minor children believe that they were suffering from AIDS when it was not so and killed them in order to grab

their property by giving poisonous injection under pretext of giving treatment, he was convicted for murder on the basis of circumstantial evidence. See :**Reddy Sampath Kumar Vs. State of AP, AIR 2005 SC 3478**

12.01. Decomposed dead body & its identification by clothes : Where the decomposed dead body of the deceased was identified by two fellow labourers by clothes which the deceased was bearing at the time of the incident, it has been held by the Supreme Court that the identity of the dead body of the deceased was established. See : **Jarnail Singh vs. State of Punjab, 2009 (67) ACC 668 (SC)**

12.02. Medical science not perfect to declare exact timing of death : Medical science has not reached such perfection so as to enable a medical practitioner to categorically indicate the exact timing of death. (See Ramjee Rai vs. State of Bihar, 2007 (57) ACC 385 (SC)). In this case the prosecution version was that the occurrence resulting into the death of the deceased and injuries to two surviving injured took place in between 6-7 a.m. (morning) on 6.9.77. But the two doctors as PWs (doing autopsy and examining the remaining two injured) deposed in their examination-in-chief that death of the deceased was possible on 6.9.77 at 7-7 a.m. but in cross-examination they deposed “that it may be possible that the deceased died in the mid-night of 5/6.9.77”. The Supreme Court has, under these facts, clarified that the doctor can never be absolutely certain on point of time so far as duration of injuries are concerned.

12.03. Strangulation of neck by electric cord and ligature mark : See : **Santosh Kumar Singh Vs. State through CBI, (2010) 9 SCC 747.**

13. Article 20(3) of the constitution as bar against forced scientific tests like Narco-analysis & Polygraph etc. : In view of the bar of the Constitution contained under Article 20(3), an accused person cannot be compelled to undergo scientific tests like Narco analysis, Polygraphy, Brainfinger Printing etc. as it amounts to self-incrimination of the accused. See : **Smt. Selvi Vs. State of Karnataka, AIR 2010 SC 1974 (Three-Judge Bench).**

- 14.01. **'DNA' & its meaning ?** : 'DNA' stands for deoxyribonucleic acid, which is the biological blueprint of every life. DNA is made-up of a double stranded structure consisting of a deoxyribose sugar and phosphate backbone, cross-lined with two types of nucleic acids referred to as adenine and guanine, purines and thymine and cytosine pyrimidines. The most important role of DNA profile is in identification, such as an individual and his blood relations such as mother, father, brother, and so on. Successful identification of skeleton remains can also be performed by DNA profiling. DNA usually can be obtained from any biological material such as blood, semen, saliva, hair, skin, bones etc. See : **Dharam Deo Yadav Vs State of UP, (2014) 5 SCC 509.**
- 14.02. **'DNA' what is ?** : DNA is a molecule that encodes the genetic information in all living organisms. DNA genotype can be obtained from any biological material such as bone, blood, semen, saliva, hair, skin, etc. Now, for several years, DNA profile has also shown a tremendous impact on forensic investigation. Generally, when DNA profile of a sample found at the scene of crime matches with the DNA profile of the suspect, it can generally be concluded that both the samples have the same biological origin. DNA profile is valid and reliable, but variance in a particular result depends on the quality control and quality procedure in the laboratory. See : **Anil @ Anthony Arikswamy Joseph Vs. State of Maharashtra, (2014) 4 SCC 69** (para 18).
- 14.03. **'DNA' & its sources ?** : DNA can be obtained from any biological material such as blood, semen, saliva, hair, skin, bones etc. See : **Dharam Deo Yadav Vs. State of UP, (2014) 5 SCC 509.**
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**Anil @ Anthony Arikswamy Joseph Vs. State of Maharashtra, (2014)
4 SCC 69** (para 18).

14.05. 'DNA' Test not violative of Art. 20(3) of the constitution : DNA profiling technique has been expressly included among the various forms of medical Examination in the amended explanation to Sections 53, 53-A and 54 of the CrPC DNA Profile is different from a DNA sample which can be obtained from bodily substances. The use of material samples such as finger prints for the purposes of comparison and identification does not amount to testimonial act or compulsion for the purpose of Article 20(3) of the constitution. Hence, the taking and retention of DNA Samples which are in the nature of physical evidence do not face constitutional hurdles in the Indian context. See : **Smt. Selvi Vs. State of Karnataka, AIR 2010 S.C. 1974 (Three-Judge Bench).**

14.06. Delayed 'DNA' test not to vitiate its findings : Where the accused was charged with having caused the death of his girl friend by hitting her with car tools like jack and spanner and cutting her with shaving blades and throwing acid on her as she had refused to abort and was found pregnant at the time of her death, the DNA report had linked the accused as biological father of foetus taken out from the body of the deceased, the sample was taken from the foetus on the date of post-mortem itself and was preserved into ice, some delay had taken place in conducting the DNA test on the sample of foetus, Junior Scientific Officer from Central Forensic Laboratory had conceded as witness that mishandling of sample could lead to wrong results but had categorically deposed that in the case on hand, result reported by him was not based on wrong facts, it has been held by the Hon'ble Supreme Court that the burden was on the accused to prove that prosecution case was vitiated because of delay in conducting test on the sample taken from the foetus and that the sample was improperly preserved. In the absence of the said burden being discharged by the

accused, his conviction for the offences u/s 302/34 and 316/34 of the IPC was held proper. See : **Sandeep Vs. State of UP, (2012) 6 SCC 107.**

14.07. 'DNA' test & effect of improper preservation of sample ? : Where the accused was charged with having caused the death of his girl friend who was found pregnant at the time of her death, the DNA report had linked the accused as biological father of foetus taken out from the body of the deceased, the sample was taken from the foetus on the date of post-mortem itself and was preserved into ice, some delay had taken place in conducting the DNA test on the sample of foetus, Junior Scientific Officer from Central Forensic Laboratory had conceded as witness that mishandling of sample could lead to wrong results but had categorically deposed that in the case on hand, result reported by him was not based on wrong facts, it has been held by the Hon'ble Supreme Court that the burden was on the accused to prove that prosecution case was vitiated because of delay in conducting test on the sample taken from the foetus and that the sample was improperly preserved. In the absence of the said burden being discharged by the accused, his conviction for the offences u/s 302/34 and 316/34 of the IPC was held proper. See : **Sandeep Vs. State of UP, (2012) 6 SCC 107.**

14.08. 'DNA' reports may vary depending on the quality control & quality procedure in laboratory : Variance in DNA report depends on the quality control & quality procedure in laboratory. See : **Anil Vs. State of Maharashtra, (2014) 4 SCC 69.**

14.09. 'DNA' & 'DNA' profile distinguished : DNA profiling technique has been expressly included among various forms of medical examination in the amended Explanation to Sec. 53 CrPC. DNA Profile is different from DNA sample which can be obtained from bodily substances. A DNA

profile is a record created on the basis of DNA samples made available to forensic experts. Creating and maintaining DNA profiles of offenders and suspects are useful practices since newly obtained DNA samples can be readily matched with existing profiles that are already in the possession of law enforcement agencies. Matching of DNA samples is emerging as a vital tool for linking suspects to specific criminal acts. See : **Selvi Vs. State of Karnataka,(2010) 7 SCC 263(Three-Judge Bench).**

14.10. 'DNA' profiling report of a person accused of rape to be prepared by registered Medical Practitioner examining him : Section 53A(2)(iv) CrPC as inserted w.e.f. 23.06.2006 casts a duty on the Registered Medical Practitioner examining an accused of offence of rape to prepare a report of his DNA profiling without delay.

14.11. 'DNA' profiling report of a victim of rape to be prepared by registered Medical Practitioner examining the person of the victim of rape : Section 164A(2)(iii) CrPC as inserted w.e.f. 23.06.2006 casts a duty on the Registered Medical Practitioner examining the person of a victim of rape to prepare a report of her DNA profiling without delay.

14.12. 'DNA' & other scientific tests when can be ordered by courts? : DNA Test is not to be directed as a matter of routine and only in deserving cases such direction can be given. See :

1. **Goutam Kundu vs. State of W.B., (1993) 3 SCC 418**
2. **Banarsi Dass vs. Teeku Dutta (Mrs.), (2005) 4 SCC 449**

14.13. 'DNA' profiling test of the person of victim of rape (Sec. 164-A (2) (iii) CrPC w.e.f. 2006) : (A) An investigating officer, u/s. 164-A(2)(iii) CrPC, can get a victim of rape not only medically examined by a registered medical practitioner but can also get the material taken from the person of the woman (victim of rape) through a registered medical practitioner for DNA profiling. But according to the provisions under sub-sections (4) & (7) to Sec. 164-A Cr.P.C. the woman (victim of rape) cannot be subjected to DNA test without her consent

- and in case of the woman being minor or otherwise incompetent to give consent then with the consent of some person competent to give consent on her behalf.
- 14.14. 'DNA' Test & precautions & procedure in conducting such tests :** While conducting DNA test precautions are required to be taken to ensure preparation of high-molecular-weight, DNA complete digestion of the samples with appropriate enzymes, and perfect transfer and hybridization of the blot to obtain distinct bands with appropriate control. See : **Pantangi Balarama Venkata Ganesh vs. State of A.P., 2009 (5) Supreme 506.**
- 14.15. 'DNA' test report & its evidentiary value :** Referring to the U.S. Supreme Court decision rendered in the case of R. vs. Watters, (2000) All.E.R. (D) 1469, the Supreme Court of India has ruled that the DNA evidence may have a great significance where there is supporting evidence, dependent of course, on the strength of that evidence. In every case one has to put the DNA evidence in the context of the rest of the evidence and decide whether taken as a whole, it does amount to a prima facie case. See : **Ranjitsing Brahmajeetsing Sharma vs. State of Maharashtra, 2005 Cr.L.J. 2533 (SC)(Three-Judge Bench).**
- 14.16. 'DNA' test report & its evidentiary value :** From matching of DNA profile of sample at the scene of crime with that of the accused, it can generally be concluded that both samples are of same biological origin. DNA profile is valid and reliable but variance in a particular result depends on the quality control and quality procedure in the laboratory. See : **Anil Vs. State of Maharashtra, (2014) 4 SCC 69.**
- 14.17. 'DNA' test report & its evidentiary value :** Where DNA report, being the solitary piece of evidence against an accused of offence of rape, had gone negative, it has been held that the DNA report conclusively excludes possibility of involvement of the accused in the commission of offence of rape. See : **2009 ACC (Summary) 22 (Gujarat)**
- 14.18. 'DNA' report to be accepted as accurate & exact :** In the case of rape with murder, it has been held by the Hon'ble Supreme Court that DNA report must be accepted as scientifically accurate & an exact science.

Interpreting the provisions of Sec 53 & 53-A CrPC, it has also been held that court cannot substitute its own opinion for that of an expert specially in case of complex subject like DNA profiling. See : **Santosh Kumar Singh Vs. State through CBI, (2010) 9 SCC 747**

14.19. 'DNA' report in the face of other evidence : Where in a murder trial the conviction of the accused was not based on expert evidence alone but on other evidence available on record as well, it has been held by the Supreme Court that the use of the word 'similar' and not 'identical' in his report by the DNA expert is not material. See : **Pantangi Balarama Venkata Ganesh vs. State of A.P., AIR 2009 SC 3129.**

14.20. 'DNA' Test to decide paternity when can be ordered by court? : As regards the scientific test of blood or DNA Test for determining the paternity or legitimacy of a child, the Supreme Court has laid down following guidelines for the purpose :

- (1) That courts in India cannot order blood test as a matter of course;
- (2) Wherever applications are made with such prayers in order to have roving inquiry, the prayer for blood test cannot be entertained.
- (3) There must be a strong prima facie case in that the husband must establish non-access in order to dispel the presumption arising u/s 112 of the Evidence Act.
- (4) The court must carefully examine as to what would be the consequence of ordering the blood test; whether it will have the effect of branding a child as a bastard and the mother as an unchaste woman.
- (5) No one can be compelled to give sample of blood for analysis. See :
 - (i) **Goutam Kundu vs. State of W.B., (1993) 3 SCC 418**
 - (ii). **Bhabani Prasad Jena Vs. Orissa State Commission for women, (2010) 8 SCC 633.**

14.21. 'DNA' & 'RNA' Tests whether conclusive for determination of paternity etc.? : Section 112 of the Evidence Act was enacted at a time when the modern scientific advancements like **Deoxyribo Nucleic Acid (DNA)** as well as **Ribo Nucleic Acid (RNA)** tests were not even in contemplation of the legislature.

The result of a genuine DNA test is said to be scientifically accurate. But even that is not enough to escape from the conclusiveness of Sec. 112 of the Evidence Act e.g. if a husband and wife were living together during the time of conception but the DNA test revealed that the child was not born to the husband, the conclusiveness in law would remain irrebuttable. This may look hard from the point of view of the husband who would be compelled to bear the fatherhood of a child of which he may be innocent. But even in such a case the law leans in favour of the innocent child from being bastardized if his mother and her spouse were living together during the time of conception. Hence the question regarding the degree of proof of non-access for rebutting the conclusiveness must be answered in the light of what is meant by access or non-access as delineated herein. It is for the parties to place evidence in support of their respective claims (regarding paternity) and establish their stands. The view that the documents produced by the party regarding succession certificate (paternity) are not sufficient or relevant for the purpose of adjudication of paternity and **DNA Test is conclusive, is erroneous**. See :

- (i) **Banarsi Dass vs. Teeku Dutta (Mrs.), (2005) 4 SCC 449**
- (ii) **Kamti Devi vs. Poshi Ram, (2001) 5 SCC 311**

14.22. 'DNA' Test Report denying biological paternity to repel presumption u/s 112, Evidence Act : In the case noted below, the DNA Test Report stated that the husband was not the biological father of the child. The husband's plea that he had no access to his wife when the child was begotten stood proved by the DNA Test Report. The child was born during the continuance of a valid marriage between the husband and the wife. Section 112 of the Evidence Act was enacted at a time when modern scientific advancement and DNA tests were not even in contemplation of the legislature. The result of DNA test is said to be scientifically accurate. Although Section 112 raises a presumption of conclusive proof on satisfaction of the conditions enumerated therein, but the same is rebuttable. The presumption may afford legitimate means of arriving at an affirmative legal conclusion. While the truth or fact is known, there is no need or room for any presumption. Where there is evidence to the contrary, the

presumption is rebuttable and must yield to proof. The interest of justice is best served by ascertaining the truth and the court should be furnished with the best available science and may not be left to bank upon presumptions, unless science has no answer to the facts in issue. When there is a conflict between a "conclusive proof" envisaged under law based on a presumption and a proof based on scientific advancement accepted by the world community to be correct, the latter must prevail over the former. See : **Nandlal Wasudeo Badwaik Vs. Lata Nandlal Badwaik & Another, (2014) 2 SCC 576** (para 17)

14.23. 'DNA' test can be ordered by Court to repel or establish infidelity and presumption u/s 112 of the Evidence Act : The Supreme Court in Nandlal Wasudeo Badwaik, (2014) 2 SCC 576, clearly opined that proof based on a DNA test would be sufficient to dislodge a presumption under Section 112 of the Evidence Act. Further, it is borne from the decisions rendered by the Supreme Court in Bhabni Prasad Jena, (2010) 8 SCC 633 and Nandlal Wasudeo Badwik case, that depending on the facts and circumstances of the case, it would be permissible for a court to direct the holding a DNA examination to determine the veracity of the allegation(s) which constitute one of the grounds, on which the party concerned would either succeed or lose. However, it is not disputed that if the direction to hold such a test can be avoided, it should be so avoided. The reason is that the legitimacy of a child should not be put to peril. In the instant case, the respondent husband has made clear and categorical assertions in the petition filed by him under Section 13 of the Hindu Marriage Act, alleging infidelity. He has gone to the extent of naming the person who was the father of the male child born to the appellant wife. It is in the process of substantiating his allegation of infidelity that the respondent husband had made an application before the Family Court for conducting a DNA test which would establish whether or not he had fathered the male child born to the appellant wife. The respondent rightly feels that it is only possible for him to substantiate the allegations leveled by him (of the appellant wife's infidelity) through a DNA test. In the opinion of the Supreme Court, but for the DNA test, it would be impossible for the respondent husband to establish and confirm the assertions

made in his pleadings. Hence, the direction issued by the High Court allowing the respondent's prayer for conducting a DNA test, was fully justified. DNA testing is the most legitimate and scientifically perfect means, which the husband could use, to establish his assertion of infidelity. This should simultaneously be taken as the most authentic, rightful and correct means also with the wife, for her to rebut the assertions made by the respondent husband, and to establish that she had not been unfaithful, adulterous or disloyal. If the appellant wife is right, she shall be proved to be so. See : **Dipanwita Roy Vs. Ronobroto Roy, (2015) 1 SCC 365** (*paras 16 & 17*)

14.24.'DNA' report & directions therefor by Division Bench of the Hon'ble Allahabad High Court issued in its judgment & order dated 28.08.2014 passed in Capital Case No. 574/2013 Akhtar Vs. State of UP(Directing that 'DNA' report in the cases of rape & murder of minor girls must be obtained from the hair & clothes etc. of the victim of rape & accused) : Following directions in the case of Akhtar Vs. State of UP have been issued by the Hon'ble High Court :

- (1) That in cases of rape and murder of minor girls, which are based on circumstantial evidence, as far as possible, material which is collected from the deceased or the accused for example hair or blood of the victim or the accused, which is found on the persons or clothes of the victim or the accused or or at the spot, seminal stains of the accused on the clothes or body of the victim, Seminal swabs which may be collected from the vaginal or other orifices of the victim and the blood and other materials extracted from the accused which constitutes the control sample should be sent for D.N.A. Analysis, for ensuring that forensic evidence for establishing the participation of the accused in the crime, is available.
- (2) We also direct the Director General Medical Health U.P., Principal Secretary Health, U.P., and D.G.P., U.P. to mandate sending the accused for medical examination in each case for ascertaining whether he has any injuries caused by the resisting victim, or when he attempts to cause harm to her as is provided

under section 53 A of the Code of Criminal Procedure Code, which was introduced by Act 25 of 2005, (w.e.f. 23.6.2006). In particular if the rape suspect is apprehended at an early date after the crime, it should be made compulsory to take both dry and wet swabs from the penis, urinary tract, skin of scrotum or other hidden or visible regions, after thorough examination for ascertaining the presence of vaginal epithelia or other female discharges which are also a good source for isolating the victim's DNA and necessary specialized trainings be imparted to the examining forensic medical practitioners for this purpose.

- (3) We direct the Principal Secretary (Health), U.P., Director General (Health and Medical Services) U.P. to prohibit conducting the finger insertion test on rape survivors, and to employ modern gadget based or other techniques for ascertaining whether the victim has been subjected to forcible or normal intercourse. These finger insertion tests in female orifices without the victim's consent have been held to be degrading, violative of her mental and physical integrity and dignity and right to privacy and are re-traumatizing for the rape victim. Relying on the International Covenant on Economic, Social, and Cultural Rights, 1966 and the United Nations Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power, 1985 it was further held in *Lillu v. State of Haryana*, (2013) 14 SCC 643 that no presumption of consent could be drawn ipso facto on the strength of an affirmative report based on the unwarranted two fingers test.
- (4) We find that there is absence of an adequately equipped D.N.A. Laboratory in U.P. which has advanced mitochondrial DNA analysis facilities, comparable to the CDFD, Hyderabad, (from where we were able to obtain positive results in this case, after unsuccessful DNA matching in an earlier case [*Criminal Capital Appeal (Jail) No. 2531 of 2010*], *Bhairo vs. State of U.P.*(decided on 6.9.11) where this Court had sent the sample of vaginal smear slides and swabs and appellant's underwear to the U.P. DNA laboratory, viz. Forensic Science Laboratory, Agra), and we direct that such a DNA centre comparable to the

CDFD be established in the State of U.P. at the earliest so that Courts and investigating agencies are not compelled to send DNA samples at high costs to the specialized facility of the CDFD at Hyderabad.

- (5) The Director General of Prosecution, U.P., the Director General of Police U.P. and Director General Medical Health should ensure that blind cases of rape and murder of minor girls or other complicated cases are thoroughly investigated by efficient Investigating Officers. Effective steps should be taken for forensic investigations by collecting and promptly sending for DNA analysis all possible incriminating material collected from the deceased, victim, accused, and at the scene of the crime etc. which may give information about the identity of the accused and his involvement in the crime, after taking precautions for preventing the contamination of the material. This is necessary to prevent Courts being rendered helpless because the prosecution and investigating agency are lax in producing witnesses or because witnesses have been won over or are reluctant to depose in Court. Steps should also be taken for preventing witnesses from turning hostile, by prosecuting such witnesses, and even by cancelling bails of accused where they have secured bails where it is apparent that efforts are being made to win over witnesses and by providing witnesses with protection where ever necessary so that they can give evidence in Court without fear or pressure. In case there is reason to think that the Investigating Officers or medical officers or others have colluded with the accused, strict action be initiated against the colluding officials as was recommended in the case of Dayal Singh vs. State of Uttaranchal (supra). It is necessary that policies and protocols be developed by the DGP, U.P., Principal Secretary Health, Director Medical Health U.P., Director of Prosecutions, U.P., for the aforesaid purposes.

- Note : (1)** Registry of the High Court was directed to forthwith forward the copies of the above judgment/directions to all the respondents to submit compliance report of the directions of the Hon'ble High Court within 4 weeks.

- (2) Registry was also directed to circulate copies of the above judgment/directions to all the District Judges for ensuring compliance of the above directions.

14.25. पड़वा और पड़िया का डीएनए टेस्ट : गोसाईगंज थाना क्षेत्र में एक भैंस चर्चा का विषय बन गयी है । तमाम उपाय के बाद अब भैंस के असली दावेदार की पहचान के लिए पंचायत में पड़वा और पड़िया का डीएनए परीक्षण कराये जाने का फैसला लिया गया है । सीओ मोहनलाल गंज राकेश नायक के मुताबिक बीते दिनों गोसाईगंज के मुल्लाखेड़ा निवासी माता प्रसाद की भैंस चोरी हो गयी थी । अगले दिन भैंस मिली थी जिसके बाद गांव के ही गुदरू ने भी भैंस को लेकर अपनी दावेदारी पेश कर दी थी । पूर्व में भैंस को लेकर यह निर्णय लिया गया था कि भैंस को छोड़ दिया जाएगा । दोनों में जिसके दरवाजे पर भैंस पहुंचेगी, उसको सौंप दी जाएगी । जब भैंस छोड़ी गयी तो दोनों में से किसी के दरवाजे पर नहीं गयी थी । इसके बाद निर्णय हुआ कि दोनों दावेदारों में से जो भैंस को दुह लेगा उसको भैंस सौंप दी जाएगी लेकिन यह तरीका भी फेल हो गया । सीओ के मुताबिक माता प्रसाद के पास एक भैंस का पड़वा है, जबकि गुदरू के पास एक पड़िया है । अब पंचायत में फैसला हुआ है कि पड़वा और पड़िया का डीएनए टेस्ट कराया जाएगा ताकि भैंस के असली दावेदार का पता लगाया जा सके । सीओ ने बताया कि शुरूआती दौर में डीएनए टेस्ट में खर्च की जिम्मेदारी भैंस के दोनों दावेदारों की होगी और उनसे एडवांस में रूपये जमा कराये जायेंगे । अन्त में जिस दावेदार की भैंस नहीं निकलेगी, उसके द्वारा जमा रकम से खर्च लिया जाएगा । (स्रोत : दैनिक जागरण, लखनऊ संस्करण 26 फरवरी, 2015, पृष्ठ 8)

14.26. DNA Test to determine buffalo's master : To settle an ownership dispute, Lucknow police is going in for DNA sampling of a buffalo to match with two calves. The scientific approach may be foolproof but the method does not appear appropriate as DNA fingerprinting may cost far more than the buffalo in question. The incident relates to a controversy that began after two persons turned up last week to claim ownership of the buffalo that initially went missing but was later traced grazing outside the village. The matter landed up with the Mohanlalganj police. The cops first applied the 'desi methods' in which the

bovine was left in the fields and villagers waited for it to walk back to the owner's house. But, it didn't. The police then asked the two contenders to milk and feed the buffalo. Both passed the tests with equal ease. Interestingly, the two claimants, Ram Bachan and Awadh Ram, are residents of Gangaganj village under Gosainganj police station and their buffalos had gone missing the same day, on February 19. Though it was Ram Bachan who informed police about the theft, Awadh Ram did not. It was only after the buffalo was traced that the latter came into the picture and the controversy began. Now, the two men are claiming ownership of the buffalo, which will undergo the test. **Source : Times of India, Lucknow Edition, Dated 05.03.2015.**

15. Opinion of an expert not to be relied on unless examined as witness in court :

Unless the expert submitting his opinion is examined as witness in the court, no reliance can be placed on his opinion alone. See :

- (i) **State of Maharashtra vs. Damu, AIR 2000 SC 1691**
- (ii) **Keshav Dutt Vs. State of Haryana, (2010) 9 SCC 286**

16. Oral Evidence when to yield to electronic or forensic evidence ? : Existence of serious discrepancy in oral evidence has to yield to conclusive scientific evidence like electronic records (Mobile call details) and other forensic evidence. See : **Gajraj Vs. State of NCT of Delhi , (2011) 10 SCC 675.**

17.01. History & method of Narco Analysis Test : Narco analysis test is also known as Truth Serum Test. Narco+Analysis=Narco-analysis means psycho analysis using drugs to induce a state akin to sleep. In narco analysis test the drug like sodiumamytal is used as a truth drug on the suspect for determination of facts about the crime. It is called “**Amytal Interview**”. It is believed that if a person is administered a drug which suppresses his reasoning power without affecting memory and speech, he can be made to tell the truth. Some drugs have been found to create this ‘twilight state’ in some persons. These drugs are being administered in some countries including India. The term narcoanalysis was introduced in 1936 for the use of narcotics to induce a trance like state wherein

the person is subjected to various queries. Under the influence of the drug, the subject talks freely and is purportedly deprived of his self-control and will-power to manipulate his answers. The underlying theory is that a person is able to lie by using his imagination. In the narcoanalysis test, the subject's imagination is neutralized and reasoning faculty affected by making him semi-conscious. The subject is not in a position to speak up on his own but can answer specific and simple questions. In this state it becomes difficult for him to lie and his answers would be restricted to facts he is already aware of. His answers are spontaneous as a semi-conscious person is unable to manipulate his answers. Truth Serums (or sera) are no serum at all. They are drugs sometimes used clinically. A few of the best known **drugs are Seconal, Hyoscine (scopolamine), Sodium Pentothal, Sodium Amytal, Phenobarbital.** Most commonly used drug for truth serum test is an anesthetic and sedative drug, Sodium Pentothal which when administered intravenously can make a person garrulous and confessional. Injected in continuous small dosages it has a hypnotizing effect on a person who responds loquaciously when questioned. The narcoanalysis test is conducted by mixing 3 grams of Sodium Pentothal or Sodium Amytal dissolved in 3000 ml of distilled water. Depending on the person's sex, age, health and physical condition, this mixture is administered intravenously alongwith 10% of dextrose over a period of 3 hours with the help of an anesthetist. **Wrong dose can send the subject into coma or even result in death.** The rate of administration is controlled to drive the accused slowly into a hypnotic trance. The effect of the biomolecules on the bio-activity of an individual is evident as the drug depresses the central nervous system, lowers blood pressure and slows the heart rate, putting the subject into a hypnotic trance resulting in a lack of inhibition. The subject is then interrogated by the investigating agencies in the presence of the doctors. The revelations made during this stage are recorded both in video and audio cassettes. The report prepared by the experts is used in the process of collecting evidence. This procedure is conducted in government hospitals after a court order is passed

instructing the doctors or hospital authorities to conduct the test. Personal consent of the subject is also required.

17.02. Narco Analysis, Polygraph & BEAP tests not permissible to be conducted on accused u/s 53, 53-A, 54 CrPC : Though conducting of certain medical tests on accused is permissible under Explanation (a) to Sec 53, 53-A & 54 CrPC, yet Narco Analysis, Polygraph & BEAP tests are not included in those tests. See : **Selvi Vs. State of Karnataka, (2010) 7 SCC 263 (Three-Judge Bench)**.

17.03. Power of court to order Narco Analysis or Brain Mapping tests etc. : The discovery of the truth is the desideratum of investigation, and all efforts have to be made to find out the real culprit, because, a guilty person should not be allowed to escape from the liability of the guilt. Courts have, therefore, to adopt a helpful attitude, in all efforts, made by the prosecution for discovery of the truth. If the Narco Analysis and Brain Mapping Test can be helpful in finding out the facts relating to the offence, it should be used and utilized and the Courts should not obstruct the conduct of the exercise. See :

1. **Abhay Singh vs. State of U.P., 2009 (65) ACC 507 (All)**
2. **Santokben vs. State of Gujarat, 2008 CrLJ 68 (Gujarat)**
3. **Dinesh Dalmia vs. State, 2006 CrLJ 2401 (Madras)**

17.04. Drugs generally applied for tests like Narco-analysis & Polygraph etc. : Following drugs are generally used on the subject for conducting the tests like Narco Analysis, Lie Detector and Polygraph etc. to extract truth or confession--

- (i) Sodium Pentothal,
- (ii) Seconal
- (iii) Hyoscine (scopolamine)
- (iv) Sodium Amytal
- (v) Phenobarbital

17.05. Admissibility of the Result of Narco-analysis Test Report :The Supreme Court of India (in the case noted below), while dealing with the question of admissibility and reliability of the result of the narco-analysis test, has not given

any conclusive opinion regarding the admissibility and the reliability of the result (report) of the narco-analysis test. See : **Ram Singh vs. Sonia, 2007 AIR SCW 1278**

17.06. Plea of health hazard not tenable against the proposed scientific tests like

Polygraph, Narco Analysis & Brain Mapping etc. : Directing scientific tests like polygraph, narco-analysis or brain mapping of an accused is not violative of the provisions of Art. 20(3) of the Constitution. Such tests on accused to bring out clinching evidence by extracting truth from him would not amount to breaking his silence by force and intrusion of his constitutional right to remain silent. Plea that such tests would cause health hazard to accused is also not tenable. Scientific tests like polygraph, narco-analysis and brain mapping etc. are **like taking MRI or CT Scan** of a person. Scientific value of such tests and credibility thereof can be evaluated only during course of trial. There is a hue and cry from public and human rights activists that the investigating sleuths adopt third degree methods to extract information from accused. But it is high time that the investigating agencies should take recourse to scientific methods of investigation. See :

- (i) **Arun Gulab Gavali vs. State of Maharashtra, 2006 Cr.L.J. 2615 (Bombay)(DB)**
- (ii) **Dinesh Dalmia vs. State, 2006 CrLJ 2401 (Madras)**

18.01. History & Method of Polygraph Test : The polygraph test was invented by Robert House of the U.S.A. in 1922. The subject is applied sedative drugs and under its influence questioning of the subject is done by the expert. Under the influence of the drug administered to the subject, he cannot create a lie as he has no power to think or reason. Under the influence of such drugs the subject cannot innovate and he would be speaking only the truth.

18.02. Polygraph or Lie Detector Test & its advantages : “Lie-detector” or “Polygraph” is a device which records tracings of several different pulsations as arterial and venous pulse waves and the apex beat of heart. “Lie-detector” or “Lie Detecting Machine” is an instrument for detecting physiological evidence of the tension that accompanies. Any device which records involuntary bodily responses associated with conscious lying is called lie detector machine.

Polygraph is a combination of technologies. In Medieval England, truth was tested by putting a suspect under water or throwing him in fire considering that if he is truthful God will save him. Another test was that the suspect would have to carry a red-hot iron bar for nine paces and if he was burnt he was deemed guilty and was immediately hanged. Sometimes the accused was tied with the sack of sand and thrown in the river. If he sank he was considered truthful and if he floated he was thought guilty and was then hanged. In both the cases the accused had to die. These practices of lie detection were banned by law in England in 1215. The earliest scientific method of detecting deceptions or lies was developed in 1895 by Cesare Lombroso, an Italian Criminologist, and in 1921 Dr. John A. Larson developed the earliest version of Polygraph. The test of Polygraph was for the first time judicially noticed in USA in 1923 in the case of Frye vs. United States. Polygraph instrument is stated to record with 100% accuracy the physiological changes in breathing, perspiration, blood pressure and pulse rate to determine a truth or a lie. If the instrument is faulty it will not record changes correctly. The polygraph test cannot take place of a thorough investigation. Before making request for polygraph test, the investigating officer must exhaust all avenues of investigation. The polygraphic test can check truthfulness of witnesses' statement, it can induce criminals to confess to crimes committed by them, it replaces third degree methods used during police interrogations, it can help in discriminating the innocent from the guilty and it can also be used to check honesty and integrity of employees or candidates to employment or persons subjected to the polygraph test.

18.03. Power of court to order Polygraph Test : Court can order an accused to be subjected to polygraph test. See : **Ram Chandra vs. State of Maharashtra, (2005) CCR 355 (Bombay) (DB)**

18.04. Voluntary test of polygraph admissible in evidence : If certain safeguards like the one recommended by the National Human Rights Commission in the case of polygraph test are observed, then such test results may be admissible in evidence for a limited purpose as indicated in Sec 27 of the Evidence Act. See : **Smt.Selvi Vs. State of Karnataka,(2010) 7 SCC 263 (Three-Judge Bench)**

- 19.01. Brain Mapping Test (P300) & its History & Method :** The brain mapping test which is also known as P300 was for the first time developed in 1995 by famous neurologist Dr. Lawrence A. Farwell who was the Director & the Chief Scientist of “Brain Wave Science” IOWA says that in this method which is also called the “**Brain Wave Finger Printing**”; the accused is first interviewed and interrogated to find out whether he is concealing any information. Then sensors are attached to the subject’s head and the person is seated before a computer monitor. He is then shown certain images or made to hear certain sounds. The sensors monitor electrical activity in the brain and register P300 waves, which are generated only if the subject has connection with the stimulus i.e. picture or sound. The subject is not asked any questions. Dr. Farwell has published that a MERMER (Memory and Encoding Related Multifaceted Electro Encephalographic Response) is initiated in the accused when his brain recognized noteworthy information pertaining to the crime. These stimuli are called the “target stimuli”. In nutshell, Brain finger printing test matches information stored in the brain with information from the crime scene.
- 19.02. Brain Mapping Test Report & its Reliability :** The admissibility of the result of a scientific test will depend upon its authenticity. Whether the brain mapping test is so developed that the report will have a probative value so as to enable a court to place reliance thereupon, is a matter which would require further consideration, if and when the materials in support thereof are placed before the court. See : **Ranjitsing Brahmajeetsing Sharma vs. State of Maharashtra, 2005 CrLJ 2533 (SC) (Three-Judge Bench)**
- 19.03. Brain Fingerprinting Test :** Central brain controls the outer brain parts. This control is disturbed by deception. An instrument called “Automatic Response Indicator” can record these disturbances. This device or system is known as “Automatic Response Indicator System”. A device called Electroencephalograph (EEG) has been developed which can record cognitive process of recognition. For example, if weapon of an offence is recognized by the culprit the instrument would show the change in the brain wave patterns. This technique is also called Brain Printing or Brain Fingerprinting. EEG is also

called BEAM, i.e., Brain Electrical Activity Mapping. It is a neurophysiologic measurement of electrical activity of brain. Electro-signals are called brain waves and it is recorded by EEG. The brain produces other electrical activities also such as responses to sound, light, touch etc. but Alpha, Beta, Delta and Theta are the standard bands of the frequency spectrum that constitute EEG activity. Electroencephalography is the science of recording and analyzing brain's electrical activity. Certain electrodes are attached to the scalp of the person. These electrodes are attached to EEG. EEG is an amplifier and converts electrical impulses into vertical moments of a pen over a sheet of paper. This recording is called electroencephalogram. Recording is made in different ways. For example, by coupling a simple electrode with an indifferent or neutral lead or between two areas of the brain through bipolar technique. The combination of recorded impulses is called a montage. By recording in different ways the scientists have been able to detect and treat various diseases such as epilepsy, cerebral tumor, encephalitis and stroke and also fainting (syncope), sleep disorders, coma and brain death can be monitored and diagnosed with the help of EEG. This technique has proved beneficial in study of brain from various angles and in different conditions. It is also used for determining whether brain has dies or not. It is said to be non-invasive and can detect convert responses to stimuli. Even a change on a millisecond level is recorded by means of Electroencephalograph. It helps monitor clinical depression treatment. Other methods of brain mapping take minutes and seconds but by mean of EEG it is done is sub-milliseconds. This is the only method to record brain activity directly. Other methods rely on blood flow or metabolism.

20.01. Blood-Grouping Test & Determination of paternity : The blood grouping test is a perfect test to determine questions of disputed paternity of a child and can be relied upon by courts as circumstantial evidence. But no person can be compelled to give a sample of blood for blood grouping test against his will and no adverse inference can be drawn against him for his refusal. See : **Hargovind Soni vs. Ramdulari, AIR 1986 MP 57**

- 20.02. Blood Grouping Test Report & its evidentiary value for determining paternity** : It has been held by the Bombay High Court that blood grouping tests have their limitation. They cannot possibly establish paternity as they can only indicate its possibilities. See : **Raghunath Eknath Hivale vs. Shardabai Karbharikale, AIR 1986 Bom. 386,**
- 20.03. Non-availability of Blood Group/ Blood Marks/ Blood Stains report and its effect** : If the evidence of eye witnesses is otherwise trust worthy, non-availability or non-ascertain ability of Blood Group/ Blood Marks /Blood Stains report can not be made a basis to discard the witnesses who otherwise inspire confidence of the court and are believed by it. See : **Keshavlal vs. State of M.P., (2002)3 SCC 254.**
- 20.04. Non-availability of Blood Group/ Blood Marks/ Blood Stains report and its effect** : If the evidence of eye witnesses is otherwise trust worthy, non-availability or non-ascertain ability of Blood Group/ Blood Marks /Blood Stains report can not be made a basis to discard the witnesses who otherwise inspire confidence of the court and are believed by it. See : **Keshavlal vs. State of M.P., (2002)3 SCC 254.**
- 20.05. Evidentiary Value of Blood Test for Determining Paternity** : Medical science is able to analyze the blood of individuals into definite groups; and by examining the blood of a given man and a child to determine whether the man could or could not be the father. Blood tests cannot show positively that any man is father, but they can show positively that a given man could or could not be the father. It is obviously the later aspect that proves to be most valuable in determining paternity, i.e. the exclusion aspect, for offence it is determined that a man could be the father, he is thereby automatically excluded from considerations of paternity. When a man is not the father of a child, it has been said that there is at least a 70% chance that if blood tests are taken they will show positively he is not the father, and in some cases the chance is even higher, between two given men who have had sexual intercourse with the mother at the time of conception, both of whom undergo blood tests will show that one of them is not the father with the irresistible proof that the other is the father. The

position which emerges on reference to these authoritative texts is that depending on the type of litigation, samples of blood, when subjected to skilled scientific examination, can sometimes supply helpful evidence on various issues, to exclude a particular parentage set up in the case. But the consideration remains that the party asserting the claim to have a child and the rival set of parents put to blood test must establish his right so to do. The court exercises protective jurisdiction on behalf of an infant. It would be unjust and not fair either to direct a test for a collateral reason to assist a litigant in his or her claim. The child cannot be allowed to suffer because of his incapacity; the aim is to ensure that he gets his rights. If in a case the court has reason to believe that the application for blood test is of a fishing nature or designed for some ulterior motive, it would be justified in not acceding to such a prayer. See : **Bharti Raj Vs. Sumesh Sachdeo, AIR 1986 All 259**

21.01. Legitimacy of child : Section 112 of the Evidence Act provides that if a person was born during the continuance of a valid marriage between his mother and any man or within 280 days after its dissolution and the mother remains unmarried, it shall be taken as conclusive proof that he is the legitimate son of that man, unless it can be shown that the parties to the marriage had no access to each other at any time when he could have been begotten. This rule of law based on the dictates of justice has always made the courts inclined towards upholding the legitimacy of a child unless the facts are so compulsive and clinching as to necessarily warrant a finding that the child could not at all have been begotten to the father and as such a legitimatization of the child would result in rank injustice to the father. Courts have always desisted from lightly or hastily rendering a verdict and that too, on the basis of slender materials, which will have the effect of branding a child as a bastard and its mother an unchaste woman. See :

1. **Dukhtar Jahan (Smt.) vs. Mohammed Farooq, AIR 1987 SC 1049**
2. **Amarjit Kaur vs. Harbhajan Singh, (2003) 10 SCC 228**

21.02. DNA Test Report when can rebut presumption of legitimacy of Child u/s 112 of the Evidence Act ? : The DNA test cannot rebut the conclusive

presumption envisaged under Section 12 of the Evidence Act. The parties can avoid the rigor of such conclusive presumption only by proving non-access which is a negative proof. See : **Shaik Fakruddin Vs. Shaik Mohammed Hasan, AIR 2006 AP 48.**

21.03. Issuing direction to hold DNA Test to establish infidelity of wife and illegitimacy of child should be avoided as far as possible :

Depending on the facts and circumstances of the case, it would be permissible for a Court to direct the holding of a DNA examination, to determine the veracity of the allegations(s), which constitute one of the grounds, on which the concerned party would either succeed or lose. There can be no dispute, that if the direction to hold such a test can be avoided, it should be so avoided. The reason, is that the legitimacy of a child should not be put to peril.The respondent-husband has made clear and categorical assertions in the petition filed by him under Section 13 of the Hindu Marriage Act, alleging infidelity. He has gone to the extent of naming the person, who was the father of the male child born to the appellant-wife. It is in the process of substantiating his allegation of infidelity that the respondent-husband had made an application before the Family Court for conducting a DNA test, which would establish whether or not, he had fathered the male child born to the appellant-wife. But for the DNA test, it would be impossible for the respondent-husband to establish and confirm the assertions made in the pleadings. The direction of hold DNA test in circumstances is proper. The court however gave liberty to wife to comply with or disregard the order passed by the High Court, requiring the holding of the DNA test with caveat that in case, she declines to comply with the direction issued by the High Court, the allegation would be determined by the concerned Court, by drawing a presumption of the nature contemplated in Section 114 of the Indian Evidence Act, especially, in terms of Illustration (h) thereof. See : **Dipanwita Roy Vs. Ronobrotao Roy, AIR 2015 SC 418 (paras 10, 11 & 12).**

21.04. Proof of “access” or “non-access” by husband or wife to each other (Sec. 112 Evidence Act) :

Sec. 112, Evidence Act, requires the party disputing the

paternity to prove non-access in order to dispel the presumption. “Access” and “non-access” mean the existence or non-existence of opportunities for sexual intercourse; it does not mean actual “co-habitation”. The effect of Section 112 Evidence Act is that: there is a presumption and a very strong one though a rebuttable one. Conclusive proof means as laid down under Section 4 of the Evidence Act. See :

- (i) **Shyam Lal vs. Sanjeev Kumar, AIR 2009 SC 3115**
- (ii) **Goutam Kundu vs. State of W.B., (1993) 3 SCC 418**

22.01. Identification by voice : Where the witnesses claiming to have identified the accused from short replies given by him were not closely acquainted with the accused, the identification of the accused by voice by the witnesses has been held unreliable. See : **Inspector of Police, T.N. vs. Palanisamy @ Selvan, AIR 2009 SC 1012**

22.02. Voice Analysis Test : In the case noted below, the Bombay High Court has laid down that taking a voice sample of an accused as sample for comparing and identifying it with a tape recorded or telephonic conversation is not violative of the fundamental rights of the accused guaranteed by Art. 20(3) of the Constitution. See :

- (i) **Ritesh Sinha Vs. State of U.P, 2010 (70) ACC 560 (ALL)**
- (ii) **CBI vs. Abdul Karim Ladsab Telgi, 2005 CrLJ 2868 (Bombay)** (Popularly known as multi-crore fake stamp paper case)
- (iii) **Mohan Singh Vs. State of Bihar, 2011(75) ACC 202(SC)**

22.03. Alleged translated version of voice cannot be relied on without producing its source : Interpreting Sections 65-A & 65-B of the Evidence Act, it has been held by the Hon'ble Supreme Court that where the voice recorded was inaudible and the voice recorder was not subjected to analysis, the translated version of the voice cannot be relied on without producing the source and there is no authenticity for translation. Source and its authenticity are the two key factors for an electronic evidence. See : **Sanjaysinh Ramrao Chavan Vs. Dattatray Gulabrao Phalke & Others, (2015) 3 SCC 123.**

22.04. Taking voice sample of accused not violative of Article 20(3) of the Constitution :

Taking voice sample of an accused by the investigating agency u/s 53 & 53-A CrPC for purposes of investigation is not violative of Article 20(3) of the Constitution. But such sample of voice can be taken by the police only under permission from the Magistrate u/s 53/165 of the CrPC. See : **Ritesh Sinha Vs. State of U.P., AIR 2013 SC 1132.**

22.05. Sample of Voice & Photograph of Face etc : Where the contents of FIR and the statements recorded during investigation were disowned by the witness, interpreting Sections 3, 65(a), 65(b) of the Evidence Act & Section (1)(t) of the Information Technology Act, 2000, it has been held that it is the duty of court while rejecting an application to summon witness to take sample of her voice to see that all relevant evidence for purposes of trial is collected and the rejection of the application of the I.O. for taking photographs of her face & body for seeking expert opinion was held to be not proper. See : **Shekhar Tiwari vs. State of U.P., 2011 (2) ALJ 275 (All)**

22.06. Tape recorded conversation & its admissibility in Evidence (S. 7, Evidence Act) :

Tape recorded conversation is admissible in evidence provided that the conversation is relevant to the matters in issue, that there is identification of the voice and that the accuracy of the conversation is proved by eliminating the possibility of erasing the tape record. A contemporaneous tape record of a relevant conversation is a relevant fact and is admissible u/s. 7 of the Evidence Act. It is also comparable to a photograph of a relevant incident. A tape recorded statement is admissible in evidence subject to the following conditions :

- (1) The voice of the speaker must be identified by the maker of the record or other persons recognizing his voice. Where the maker is unable to identify the voice, strict proof will be required to determine whether or not it was the voice of the alleged speaker.
- (2) The accuracy of the tape recorded statement must be proved by the maker of the record by satisfactory evidence: direct or circumstantial.
- (3) Possibility of tampering with, or erasure of any part of, the tape recorded statement must be totally excluded.
- (4) The tape recorded statement must be relevant.
- (5) The recorded cassette must be sealed and must be kept in safe or official custody.

(6) The voice of the particular speaker must be clearly audible and must not be lost or distorted by other sounds or disturbances. See :

1. **State (NCT of Delhi) vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715---***(known as Parliament attack case)*
2. **Ram Singh & others vs. Col. Ram Singh, 1985 (Suppl) SCC 611**
3. **R.M. Malkani vs. State of Maharashtra, AIR 1973 SC 157.**

Note : *State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case) now overruled by a Three-Judge Bench in Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench) observing that in the absence of certificate u/s 65-B of the Evidence Act, a secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence.*

22.07. Preconditions for admissibility of tape recorded conversation : A tape recorded statement is admissible in evidence, subject to the following conditions :

- (i) The voice of the speaker must be identified by the maker of the record or other persons recognizing his voice. Where the maker is unable to identify the voice, strict proof will be required to determine whether or not it was the voice of the alleged speaker.
- (ii) The accuracy of the tape recorded statement must be proved by the maker of the record by satisfactory evidence: direct or circumstantial.
- (iii) Possibility of tampering with, or erasure of any part of, the tape recorded statement must be totally excluded.
- (iv) The tape recorded statement must be relevant.
- (v) The recorded cassette must be sealed and must be kept in safe or official custody.
- (vi) The voice of the particular speaker must be clearly audible and must not be lost or distorted by other sounds or disturbances. See :

1. **Ram Singh & others Vs. Col. Ram Singh, 1985 (Suppl) SCC 611**
2. **State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case)**

Note : *State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case) now overruled by a Three-Judge Bench in Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench) observing that in the absence of certificate u/s 65-B of the Evidence Act, a*

secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence.

22.08. Admissibility and evidentiary value of tape recorded conversation (S. 7, Evidence Act) :

With the introduction of Information Technology Act, 2000 “electronic records” have also been included as documentary evidence u/s. 3 of the Evidence Act and the contents of electronic records, if proved, are also admissible in evidence. Tape recorded conversation is admissible in evidence provided that the conversation is relevant to the matters in issue, that there is identification of the voice and that the accuracy of the conversation is proved by eliminating the possibility of erasing the tape record. A contemporaneous tape record of a relevant conversation is a relevant fact and is admissible u/s. 7 of the Evidence Act. It is also comparable to a photograph of a relevant incident. See : **R.M. Malkani Vs. State of Maharashtra, AIR 1973 SC 157**

22.09. Admissibility of conversation on telephone or mobile : Call records of (cellular) telephones are admissible in evidence u/s. 7 of the Evidence Act. There is no specific bar against the admissibility of the call records of telephones or mobiles. **Examining expert to prove the calls on telephone or mobile is not necessary.** Secondary evidence of such calls can be led u/s 63 & 65 of the Evidence Act. The provisions contained under the Telegraph Act, 1885 and the Telegraph Rules, 1951 do not come in the way of accepting as evidence the call records of telephone or mobile. See : **State (NCT of Delhi) vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case).**

Note : *State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case) now overruled by a Three-Judge Bench in Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench) observing that in the absence of certificate u/s 65-B of the Evidence Act, a secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence.*

22.10. Conversation on telephone or mobile & its evidentiary value : Call records of (cellular) telephones are admissible in evidence u/s. 7 of the Evidence Act. There is no specific bar against the admissibility of the call records of telephones or mobiles. Examining expert to prove the calls on telephone or mobile is not

necessary. Secondary evidence of such calls can be led u/s. 63 & 65 of the Evidence Act. The provisions contained under the Telegraph Act, 1885 and the Telegraph Rules, 1951 do not come in the way of accepting as evidence the call records of telephone or mobile. See : **State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715** (*known as Parliament attack case*).

Note : *State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case) now overruled by a Three-Judge Bench in Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench) observing that in the absence of certificate u/s 65-B of the Evidence Act, a secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence.*

22.11. Alleged translated version of voice cannot be relied on without producing

its source : Interpreting Sections 65-A & 65-B of the Evidence Act, it has been held by the Hon'ble Supreme Court that where the voice recorded was inaudible and the voice recorder was not subjected to analysis, the translated version of the voice cannot be relied on without producing the source and there is no authenticity for translation. Source and its authenticity are the two key factors for an electronic evidence. See : **Sanjaysinh Ramrao Chavan Vs. Dattatray Gulabrao Phalke & Others, (2015) 3 SCC 123.**

23.01. Comparison of handwritings or signatures not a science at all but only an

art : Comparison of hand writings or signatures is not a science at all muchless any scientific approach is involved in making such comparison. It is only an art which has to be acquired by experience. In so far as judicial officers in States are concerned, they are provided with the subject of introduction to comparison of signatures and hand writing during their basic induction course at the time of their induction into the subordinate judiciary after selection. They are taken to several premier forensic and scientific institutions for practical experience and also are provided with lectures by faculty on the above subject. It is not as if judicial officers undertake the power under Section 73 of the Evidence Act in a gullible

manner. They are provided with basic confidence in understanding this subject. It cannot be said that lower Court which is Court presided over by senior subordinate judicial officer cannot undertake work of comparison of signatures in exercise of power under Section 73 of Evidence Act, particularly when that Court did not entertain any doubt on this aspect of matter. After all, evidence of a person who claims to be an expert, is not conclusive. An expert's evidence has to be scrutinized and adjudicated again by Court, like any other witness for the party, as to his approach to his conclusion and also reliability of such report. Judicial discretion thus exercised by lower Court in refusing to send disputed documents and admitted document to expert for comparison of signatures, proper. See : **J. Krishna Vs. Maliram Agarwal & Others, AIR 2013 AP 107** (paras 9 &10)

23.02. Necessary qualifications of an expert u/s 45, Evidence Act : Sec. 45 of the Evidence Act which makes opinion of experts admissible lays down that when the court has to form an opinion upon a point of foreign law or of science or of art or as to identity of handwriting or finger impressions, the opinions 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. Therefore, in order to bring the evidence of a witness as that of an expert it has to be shown that he has made a special study of the subject or acquired a special experience therein or in other words that he is skilled and has adequate knowledge of the subject. See :

- (i) **Ramesh Chandra Agrawal vs. Regency Hospital Ltd., 2009 (6) Supreme 535**
- (ii) **State of H.P. vs. Jai Lal, (1999) 7 SCC 280**

23.03. Judicial Officers are provided training during their basic induction training course and are competent to themselves compare the handwritings/signatures: Comparison of hand writings or signatures is not a science at all muchless any scientific approach is involved in making such comparison. It is only an art which has to be acquired by experience. In so far as judicial officers in States are concerned, they are provided with the subject of

introduction to comparison of signatures and hand writing during their basic induction course at the time of their induction into the subordinate judiciary after selection. They are taken to several premier forensic and scientific institutions for practical experience and also are provided with lectures by faculty on the above subject. It is not as if judicial officers undertake the power under Section 73 of the Evidence Act in a gullible manner. They are provided with basic confidence in undertaking this subject. It cannot be said that lower Court which is Court presided over by senior subordinate judicial officer cannot undertake work of comparison of signatures in exercise of power under Section 73 of Evidence Act, particularly when that Court did not entertain any doubt on this aspect of matter. After all, evidence of a person who claims to be an expert, is not conclusive. An expert's evidence has to be scrutinized and adjudicated again by Court, like any other witness for the party, as to his approach to his conclusion and also reliability of such report. Judicial discretion thus exercised by lower Court in refusing to send disputed documents and admitted document to expert for comparison of signatures, proper. See : **J. Krishna Vs. Maliram Agarwal & Others, AIR 2013 AP 107** (*paras 9 &10*)

23.04. Judicial discretion available to refuse to send disputed and admitted documents to expert for comparison of signatures u/s 73 of the Evidence Act : Comparison of hand writings or signatures is not a science at all much less any scientific approach is involved in making such comparison. It is only an art which has to be acquired by experience. In so far as judicial officers in State are concerned, they are provided with the subject of introduction to comparison of signatures and hand writing during their basic induction course at the time of their induction into the subordinate judiciary after selection. They are taken to several premier forensic and scientific institutions for practical experience and also are provided with lectures by faculty on the above subject. It is not as if judicial officers undertake the power under Section 73 of the Evidence Act, in a gullible manner. They are provided with basic confidence in undertaking this

subject. It cannot be said that lower Court which is Court presided over by senior subordinate judicial officer cannot undertake work of comparison of signatures in exercise of power under Section 73 of Evidence Act, particularly when that Court did not entertain any doubt on this aspect of matter. After all, evidence of a person who claims to be an expert, is not conclusive. An expert's evidence has to be scrutinized and adjudicated again by Court, like any other witness for the party, as to his approach to his conclusion and also reliability of such report. Judicial discretion thus exercised by lower Court in refusing to send disputed documents and admitted document to expert for comparison of signatures, proper. See : **J. Krishna Vs. Maliram Agarwal & Others, AIR 2013 AP 107** (paras 9 &10).

23.05. Magistrate may order a person or accused to give his specimen signatures or handwriting for purposes of investigation or other proceedings under the CrPC provided such person/accused was earlier arrested in connection with such investigation or proceeding : Section 311-A CrPC as inserted w.e.f. 23.06.2006 provides that Magistrate may order a person or accused to give his specimen signatures or handwriting for purposes of investigation or other proceedings under the CrPC provided such person/accused was earlier at some time arrested in connection with such investigation or proceeding.

24.01. Court/Magistrate competent to order taking of specimen finger prints or handwritings/signature etc. from accused : U/s 5 & 6 of the Identification of Prisoners Act, 1920, a first class Magistrate is competent to order taking of specimen fingerprint, handwriting, thumb impression, impressions of foot, impression of palm or fingers, showing parts of the body by way of identification, for an investigation or proceedings under the CrPC and the same would not be hit by Art 20(3) of the Constitution as “being witness against himself”. See :

1. **Selvi Vs. State of Karnataka, (2010) 7 SCC 263 (Three-Judge Bench)**
2. **State through SPE & CBI vs. M. Krishna Mohan, AIR 2008 SC 368**
3. **State of Bombay vs. Kathi Kalu, AIR 1961 SC 1808 (Eleven-Judge Bench)**

- 24.02. Court may direct an accused to give impression of thumb, foot, palm finger or specimen writing or showing parts of the body to police officer** : Relying upon earlier Eleven-Judge Bench decision rendered in the case of **State of Bombay vs. Kathi Kalu, AIR 1961 SC 1808**, it has been ruled by the Hon'ble Supreme Court that giving thumb impressions or impressions of foot or palm or fingers or specimen writings for examination by experts or showing parts of the body by way of identification are not included in the expression 'to be a witness' and the same would not be hit by Article 20(3) of the Constitution. See : **Rabindra Kumar Pal Vs. Republic of India, AIR 2011 SC 1436**
- 24.03. Thumb impression & expert's evidence** : Science of identifying thumb impression by an expert u/s. 45 of the Evidence Act is an exact science and does not admit of any mistake or doubt. See : **Jaspal Singh Vs. State of Punjab, AIR 1979 SC 1708**.
- 25.01. Typewriter expert** : Overruling an earlier Three-Judge Bench decision in **Hanumant vs. State of M.P., AIR 1952 SC 343**, a Five-Judge Bench of the Supreme Court has held that the word 'expert' in Sec. 45 of the Evidence Act includes expert in typewriters as well. Typewriting also falls within the meaning of work 'handwriting'. Hence opinion of typewriter expert is admissible in evidence. The examination of typewriting and identification of the typewriter on which the questioned document was typed is based on a scientific study of certain significant features of the typewriter peculiar to a particular typewriter and its individuality which can be studied by an expert having professional skill in the subject and, therefore, the opinion of the typewriter expert is admissible u/s. 45 of the Evidence Act. See : **State Through CBI vs. S.J. Choudhary, AIR 1996 SC 1491 (Five-Judge Bench)**.
- 25.02. Fingerprint experts report not substantive evidence** : evidence of fingerprint expert u/s 45 of the Evidence Act is not substantive evidence. It can be used to corroborate some items of substantive on record. See : **Musheer Khan Vs. State of M.P., 2010 (70) ACC 150 (SC)**

- 25.03. Finger prints & its evidentiary value** : There is no gainsaying the fact that a majority of fingerprints found at crime scenes or crime articles are partially smudged, and it is for the experienced and skilled fingerprint expert to say whether a mark is usable as fingerprint evidence. Similarly it is for a competent technician to examine and give his opinion whether the identity can be established, and if so whether that can be done on eight or even less identical characteristics in an appropriate case. See : **Mohan Lal Vs. Ajit Singh, (1978) 3 SCR 823.**
- 25.04. Fingerprint experts report not substantive evidence** : Evidence of fingerprint expert u/s 45 of the Evidence Act is not substantive evidence. It can be used to corroborate some items of substantive on record. See : **Musheer Khan Vs. State of M.P, 2010 (70) ACC 150(SC)**
- 25.05. Non-examination of finger print expert & its effect** : Where the crime article, before its seizure, was handled by many persons, non-examination of the finger print expert in such a case would not have any adverse effect on prosecution case. See : **Keshavlal Vs. State of M.P., (2002) 3 SCC 254.**
- 26.01. Video conferencing & recording of evidence in the absence of physical presence of the accused permissible u/s 273 CrPC** : Recording of evidence of witness by video conferencing even in the physical presence of the accused before court would fully meet the requirements of Section 273 CrPC. Evidence, both oral and documentary which includes electronic records also, even in criminal matters, can be recorded by way of electronic records like video conferencing. See : **State of Maharashtra Vs. Dr. Praful B. Desai, AIR 2003 SC 2053.**
- 26.01(a).Recording of statement of witness through video conferencing permissible in a petition for divorce for mutual consent u/s 13-B of Hindu Marriage Act, 1955** : Recording of statement of witness through video conferencing is permissible in a petition for divorce for mutual consent u/s 13-B of Hindu Marriage Act, 1955. Word 'hearing' used in Section 13-B does not necessarily mean that both parties have to be examined. See : **Smt. Shilpa Chaudhary Vs. Principal Judge, AIR 2016 All 122.**

- 26.02. Video conferencing & recording of evidence in the absence of physical presence of the accused permissible u/s 273 CrPC** : Sections 9(6), 11(1) and 273 CrPC---Circular issued in consonance of Section 9(6) of the CrPC---it is meant for sitting of court of sessions and not for court of Magistrate. According to Section 11(1) CrPC, State Government may after consultation with the High Court notify the place of sitting or judicial Magistrate. Sessions Judge cannot shift the place of sitting. Section 273 CrPC contemplates constructive presence (of the accused). Actual physical presence of accused is not must. Recording of evidence by Video Conferencing also satisfies the object of Section 273 CrPC . Using Video Conferencing System could not be held to be a violation of the provision of 273 CrPC. Administrative order passed by Session's Judge and by ACJM were quashed by the High Court. See : **Haseen Siddiqui Vs. State of UP, 2014 (84) ACC 591 (All)(LB)**.
- 26.03. Recording of evidence of a witness in a foreign country through video conferencing only permissible when that country has extradition treaty with India** : Recording of evidence of a witness in a foreign country through video conferencing is permissible when that country has extradition treaty with India and under whose laws contempt of court and perjury are also punishable. See : **State of Maharashtra Vs. Dr. Praful B. Desai, AIR 2003 SC 2053**.
- 26.04. Issuance of commission u/s 284 & 285 CrPC to record evidence of a witness by way of video conferencing permissible** : Issuance of commission u/s 284 & 285 CrPC to record evidence of a witness (even in a foreign country) by way of video conferencing is permissible where attendance of the witness cannot be procured without an amount of delay, expense or inconvenience. See : **State of Maharashtra Vs. Dr. Praful B. Desai, AIR 2003 SC 2053**.
- 26.05. Evidence of witness by way of video conferencing where, how and by whom to be recorded ?** : Where a witness in USA was willing to give evidence to a trial court in Bombay by way of video conferencing from USA, the Hon'ble Supreme Court has held thus : A witness is willing to give evidence an official of the Court can be deputed the record evidence on Commission by way of video conferencing. The evidence will be recorded in the studio/hall where the vide

conferencing takes place. The Court in Mumbai would issuing Commission to record evidence by video conferencing in Mumbai. Therefore, the Commission would be addressed to the Chief Metropolitan Magistrate, Mumbai who would depute a responsible officer (preferably a judicial officer) to proceed to the office of VSNL and record the evidence of in the presence of the respondent-accused. The officer shall ensure that the respondent and his counsel are present when the evidence is recorded and that they are able to observe the demeanour and hear the deposition of the witness. The officers shall also ensure that the respondent has full opportunity to cross-examine said witness. It must be clarified that adopting such a procedure may not be possible if the witness is out of India and not willing to give evidence. ...Fixing of time for recording evidence on Commission is always the duty of the officer who has been deputed to so record evidence. Thus the officer recording the evidence would have the discretion to fix up the time in consultation with VSNL, who are experts in the field and who, will know which is the most convenient time for video conferencing with a person is USA. The respondent and his counsel will have to make it convenient to attend at the time fixed by the concerned officer. If they do not remain present the Magistrate will take action, as provided in law, to compel attendance. Officer who will be deputed would be one who has authority to administer oaths. That officer will administer the oath. See : **State of Maharashtra Vs. Dr. Praful B. Desai, AIR 2003 SC 2053.**

26.06. Accused cannot object against recording of evidence of victim/witness on the ground that he cannot have full view of the victim/witness : Section 273 CrPC merely requires the evidence to be taken in the presence of the accused. This Section, however, does not say that the evidence should be recorded in such a manner that the accused should have full view on the victim (of rape) as witness. Recording of evidence of the victim/witness by way of video conferencing vis-à-vis Section 273 CrPC is permissible. See : **Sakshi Vs. Union of India, AIR 2004 SC 3566.**

26.07. Accused held not entitled to bail on the ground that the evidence of witnesses during trial could not be recorded due to non-availability of video

- conference facility on certain dates** : Accused was held not entitled to bail u/s 439 CrPC on the ground that the evidence of witnesses during trial could not be recorded due to non-availability of video conference facility on certain dates. See : **Rajesh Ranjan Yadav alias Pappu Yadav Vs. CBI, AIR 2008 SC 942.**
- 26.08. Trial of accused in one State can be held by video conferencing with the jail of the other State where the accused is lodged** : Where the accused facing trial in the State of Bihar for the offences u/s 302 read with 120-B IPC was transferred from the jail in Bihar to Tihar jail in Delhi, it has been held by the Hon'ble Supreme Court that the trial of the accused in one State can be held by video conferencing with the jail of the other State where the accused is lodged. See : **Kalyan Chandra Sarkar Vs. Rajesh Ranjan alias Pappu Yadav, (2005) 3 SCC 284.**
- 26.09. Video conferencing & warrant trail by Magistrate u/s 275(1) CrPC** : Proviso to sub-section (1) of Section 275 CrPC as inserted w.e.f. 31.12.2009 provides that evidence of a witness u/s 275(1) CrPC in a warrant-case may also be recorded by the Magistrate by audio-video electronic means in the presence of the advocate of the accused.
- 26.10. Process of identification by the witness identifying an arrested person to be videographed if such witness is mentally or physically disabled** : Second Proviso to Section 54A CrPC as inserted w.e.f. 03.02.2013 provides that the process of identification by the witness identifying an arrested person shall be videographed if such witness is mentally or physically disabled.
- 27. Information contained in computers** : The printouts taken from the computers/servers by mechanical process and certified by a responsible official of the service-providing company can be led in evidence through a witness who can identify the signatures of the certifying officer or otherwise speak of the facts based on his personal knowledge. Such secondary evidence is admissible u/s. 63 and 65 of the Evidence Act. See : **State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case)**
- Note** : *State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case) now overruled by a Three-Judge Bench in Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench)*

observing that in the absence of certificate u/s 65-B of the Evidence Act, a secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence.

28. Bail granted by SJ, Badaun u/s 67 of the I.T. Act, 2000, cancelled by the

High Court : In the case noted below, the accused was working as Manager of the Urban Co-operative Bank, Badaun, and had fraudulently got signed some blank papers from the informant Smt. Veena Verma in respect of certain home loan advanced to her and thereafter started harassing her and her husband by threatening to commit their murder and had also sent some obscene SMS to her from his mobile with obscene comments on her and started blackmailing her by threatening to make public the obscene recorded of her on his phone. The accused had also demanded a sum of Rs. 8 lacs from her failing which he had threatened to commit her murder and of her husband and to make public the SMS on his phone. During investigation it was found that the accused had committed rape also on her. The Sessions Judge, Badaun had granted bail to the accused for the offences u/s 386, 511, 506, 509 IPC and u/s 67 of the Information Technology Act, 2000. But the said Bail was subsequently cancelled by the Hon'ble Allahabad High Court. See : **Smt. Veena Verma Vs. State of UP, 2010 (71) ACC 510 (All).**

29.01. Sniffer Dog & Value of Evidence of it's Master: As regards the evidence relating to the sniffer dog, the law is settled that while the services of a sniffer dog may be taken for the purpose of investigation, its faculties cannot be taken as evidence for the purpose of establishing the guilt of an accused. See : **Dinesh Borthakur Vs. State of Assam, AIR 2008 SC 2205**

29.02. Tracker dogs' performance report & its evidentiary value : There are inherent frailties in the evidence based on sniffer or tracker dog. The possibility of an error on the part of the dog or its master is the first among them. The possibility of a misrepresentation or a wrong inference from the behaviour of the dog could not be ruled out. Last, but not the least, the fact that from scientific point of view, there is little knowledge and much uncertainty as to the

precise faculties which enable police dogs to track and identify criminals. Investigation exercises can afford to make attempts or forays with the help of canine faculties but judicial exercise can ill afford them. See : **Gade Lakshmi Mangaraju Vs. State of A.P., 2001 (6) SCC 205**

29.03. Objections generally raised against the evidence of tracker dog : There are three objections which are usually advanced against reception of the evidence of dog tracking. First since it is manifest that the dog cannot go into the box and give his evidence on oath and consequently submit himself to cross-examination, the dog's human companion must go into the box and the report the dog's evidence and this is clearly hearsay. Secondly, there is a feeling that in criminal cases the life and liberty of a human being should not be dependent on canine inference. See : **Abdul Rajak Murtaja Defedar Vs. State of Maharashtra, AIR 1970 SC 283 (Three-Judge Bench).**

30(A). Electronic records & their evidentiary value : With the enactment of the '**Information Technology Act, 2000**' as further amended by the Parliament in the year 2008 (Central Act No. 10 of 2009) w.e.f. 27.10.2009, the expression "document" occurring in Section 3 of the Evidence Act, 1872 now includes "electronic records" also. Following Sections in the Evidence Act w.e.f. 17.10.2000 & 27.10.2009 stood amended or inserted after coming into force of the Information Technology Act, 2000 :

Sections	Subject covered by the Sections
3	Documents include electronic records also.
3	Meaning of 'electronic signature certificate' as assigned to it in the Information Technology Act, 2000
17	Admission of facts contained in electronic records
22A	Oral admissions as to contents of electronic records relevant
34	Entries in books of account including those maintained in an electronic form relevant
35	Entry in public record or an electronic record made by a public servant in discharge of his official duty relevant
39	How much part of a statement contained in electronic records to be proved
45A	Opinion of examiner/expert of electronic records relevant as per

	Section 79A of the Information Technology Act, 2000
47A	Opinion of Certifying Authority of the electronic signature (digital signature) certificate on Electronic Signature relevant
59	Proof of facts except the contents of electronic records may be proved by oral evidence
65A	Contents of electronic records may be proved in accordance with the provisions of Section 65B
65B	Information contained in electronic records which is printed on a paper, stored, recorded or copied in optical or magnetic media by a computer may be proved as provided by Section 65B
67A	Electronic signature must be proved
73A	Proof of digital signature of a person either by producing the Digital Signature Certificate of the Controller or Certifying Authority or by any other person as provided by Section 73A(b)
81A	Presumption as to Gazettes in electronic forms
85A	Presumption as to electronic agreements
85B	Presumption as to electronic records & electronic signatures
85C	Presumption as to Electronic Signature Certificates
88A	Presumption as to Electronic messages (SMS)
90A	Presumption as to electronic records five years old
131	Production of electronic records in the possession or control of a person entitled to refuse its production not to be compelled.

30(B).In the absence of certificate required u/s 65-B of the Evidence Act, secondary evidence of electronic records like CD, VCD, Chip etc. not admissible in evidence : A Three-Judge Bench of the Hon'ble Supreme Court while overruling its previous ruling on admissibility of secondary electronic evidence rendered in the case of **State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case)** has held that in the absence of certificate required u/s 65-B of the Evidence Act, secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence. The Three-Judge Bench held thus : "The case was an election petition which related to an allegation of a corrupt practice against the Respondent No. 1 under Section 100(1)(b) and Section 123(4) of the Representation of the People Act, 1951 on the ground that Respondent No.1 had made certain speeches, songs and announcements to prejudice the prospects of

the appellant and it had materially affected his election results. The evidence of the said speeches, songs, etc. was produced in CDs by feeding the contents into computer and thereafter making copies. Section 65-B certificate was not produced along with those CDs. The Court held that such evidence is inadmissible. A Three-Judge Bench of the Hon'ble Supreme Court in the case of **Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench)** (para 22) held thus : *"The evidence relating to electronic record, as noted hereinbefore, being a special provision, the general law on secondary evidence under Section 63 read with Section 65 of the Evidence Act shall yield to the same. Generalia specialibus non derogant, special law will always prevail over the general law. It appears, the court omitted to take note of Section 59 and 65-A dealing with the admissibility of electronic record. Section 63 and 65 have no application in the case of secondary evidence by way of electronic record; the same is wholly governed by Sections 65-A and 65-B. To that extent, the statement of law on admissibility of secondary evidence pertaining to electronic record, as stated by this Court in Navjot Sandhu case, does not lay down the correct legal position. It requires to be overruled and we do so. An electronic record by way of secondary evidence shall not be admitted in evidence unless the requirements under Section 65-B are satisfied. Thus, in case of CD, VCD, chip, etc. the same shall be accompanied by the certificate in terms of Section 65-B obtained at the time of taking the document, without which, the secondary evidence pertaining to that electronic record, is inadmissible."* See :

- (i) **Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench).**
- (ii) **(2016) 5 SCC (J-1)**
- (iii) **Kundan Singh Vs. State, 2015 SCC Online Del 13647.**

Note : *State (NCT of Delhi) Vs. Navjot Sandhu alias Afsan Guru, 2005 SCC (Cri) 1715 (known as Parliament attack case) now overruled by a Three-Judge Bench in Anvar P.V. Vs. P.K. Basheer, (2014) 10 SCC 473 (Three-Judge Bench) observing that in the absence of certificate u/s 65-B of the Evidence Act, a secondary evidence of electronic records like CD, VCD, Chip etc. is not admissible in evidence.*

30(C). **'Face Book' as a public forum facilitates expression of public opinion** : Face Book is a public forum and it facilitates expression of public

opinion. Posting of one's grievances against machinery even on govt. face book page does not buy itself amount to criminal conduct. A citizen has right to expression under Article 19(1)(a) & (2) of the Constitution of India. See : **Manik Taneja Vs. State of Karnataka, (2015) 7 SCC 423.**
