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IMPORTANCE OF ELECTRONIC EVIDENCE AND APPLICATION OF FORENSIC SCIENCE IN CRIMINAL INVESTIGATION

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ABSTRACT

Computers have become an integral part of every facet of human lives in the present era of information and communication technology. At the same time, this tremendously high technical capacity of modern computers provides avenues for misuse as well as opportunities for committing crime. In a crime involving the use of technology, the evidence furnished is also in electronic or digital form. The most challenging aspect is that electronic or digital evidence, by its very nature is invisible to the eye. Therefore, the evidence must be interpreted using tools and techniques other than the human eye. Increasing reliance on evidence extracted from computer systems to bring about convictions has led to emergence of a new means of scientific investigation i.e. computer forensics. Computer forensics is a branch of forensic science pertaining to legal evidence found in computers and digital storage media. While a relatively new science, computer forensics has gained a reputation for being able to uncover evidence that would not have been recoverable otherwise, such as e-mails, text messages etc.

- **IMPORTANCE OF EVIDENCE IN CRIMINAL PROSECUTION**

Evidence plays a decisive role in the prosecution of a criminal case. In any criminal litigation, proving or disproving a fact in issue depends upon the evidence produced by the prosecution or defence. According to Sir Blackstone, 'Evidence' signifies that which demonstrates, makes clear or ascertain the truth of the facts or points in issue either on one side or the other.[2] Whenever a crime is committed, it is the primary objective of every criminal justice system to deliver justice to the victim. This may be achieved by taking

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[2] WILLIAMMACK&HARVARDP.NASH,CYCLOPEDIAOFLAWANDPROCEDURE847(1905)

recourse to the best evidence rule i.e. by producing the best available evidence without doubting its integrity. Due to lack of evidence or lack of proper evidence, hard-core criminals are often acquitted or let scot free on the basis of slightest of doubt. It is the key element in determining the guilt or innocenceof a person accused of an offence. Hence, it is very crucial that the process through which such evidence is collected, analysed and presented before the court must be established beyond reasonable doubt. Among the various agencies of criminal justice system, the law enforcement agencies are involved in the identification, collection, preservation and analysis of evidence relating to criminal cases. When such evidence is presented before the court, it becomes the responsibility of the court to arrive at a conclusion as to whether such evidence may be made admissible after applying the rules of evidence. A judge trying a criminal case has a sacred duty to appreciate the evidence in a seemingly manner and is not to be governed by any kind of individual philosophy, abstract concepts, conjectures and surmises and should never be influenced by some observation or speeches made in certain quarters of the society but not in binding precedents. He should entirely ostracize prejudice and bias. The bias need not be personal but may be opinionated bias. It is an obligation to understand the case of the prosecution and the plea of the defence in proper perspective, address to the points involved for determination and considers the material and evidence brought on record to substantiate the allegations and record his reasons with sobriety sans emotion.

The judiciary, on many occasions, has highlighted the importance of producing the best evidence, also known as the 'best evidence rule' in any criminal prosecution. The Courts which decide the question of fact have no personal knowledge about the fact to be decided by them. They arrive at the findings on the basis of direct evidence of those who have personal knowledge about the fact in issue or on expert evidence or on documentary evidence if the document is admissible and duly proved, or on the circumstantial evidence or they decide an issue by drawing the presumption under a mandatory provision of law and by using the principles as to burden of proof. Among these several courses available to the Court forgiving a finding on the question of fact, the documentary evidence appears to be the best

evidence if the document is admissible and is duly proved and is capable of proving the factin question beyond doubt[3].

Similarly, in another judicial intervention, the production of best evidence rule was highlighted by the Court laying down that the party on whom the burden to prove the fact lies, must produce the best evidence available to it. Therefore, if, in a given case, the testimony of a material witness may be described as the best evidence in the case, the Courts may insist that such best evidence must be produced. If for any reason production of the best evidence is not possible. The only remedy would be to produce next best evidence and inthese cases, if the party produces next best evidence, the Court has to take such next best evidence in consideration and find out whether the alleged fact has or has not been proved.

In criminal cases, every fact which is used for the purpose of establishing the guilt of the accused by the prosecution, must be proved beyond reasonable doubt, whatever be the nature of evidence, be it documentary evidence, oral evidence, circumstantial evidence or by drawing presumptions according to any mandatory provisions of law.

It is important to note that the outcome of criminal proceedings primarily depends upon the strength and admissibility of evidence, which include real evidence, scientific evidence, witness testimony etc.

It is a well-established principle that criminal prosecutions are based on proof beyond reasonable doubt. Hence, it becomes a challenge for the agencies of criminal justice administration to ensure the same. The question that often arises is how the judges who were not present at a scene of crime, and were not eyewitnesses themselves to the event and do not know the credibility or the accuracy of the witnesses called before them trust that they would make the right decisions on the liberty of another?[4]

[3] *Jagdish Chandra v.StateofRajasthan*,1996(2)WLN542,18

[4] *Physicalevidenceisoftenthemostimportantevidence*,THETRUTHABOUTFORENSICSCIENCE,https://www.thetruthaboutforensicscience.com/physical-evidence-is-often-the-most-important-evidence/(Lastvisited March 2023)

Thus, it has been observed that the courts have relied upon different types of evidence to finally conclude any criminal prosecution. Depending upon the type of evidence used, different rules of evidence have been interpreted by the court from time to time based on law of evidence to arrive at a conclusion.

- **NATURE OF LEGAL EVIDENCE**

Laws may broadly be classified into two types: substantive and adjective. Substantive law determines the rights and liabilities of the parties in dispute, whereas, adjective laws deal withthe method of presenting cases to court proving them or enforcing the rights and duties enshrined under the substantive laws. Law of evidence is categorized under adjective law together with procedural laws, both criminal and civil. According to Merriam-Webster Dictionary, adjective law means "the portion of the law that deals with the rules of procedure governing evidence, pleading, and practice". According to some scholars, it doesn't make a lot of difference if the law of evidence is brought under the category of procedural law. However, there has been a consensus on categorizing law of evidence as one part of adjective law for the establishing more effective system of adjudication of cases before the court of law. Although one can see grains of evidence law in procedural laws, their main dealing is with how pleadings can be framed, investigation conducted, evidence collected etc. This does not necessarily make the law of evidence to be part of procedural law.

As mentioned earlier, evidence and laws regulating it is one of the most significant factors in the criminal justice system. Every conclusion of the judgment, whatever may be its subject, is the result of evidence – a word which (derived from words in the dead languages signifyingto see, to know) by a natural transition is applied to denote the means by which any alleged matter of fact, the truth of which is submitted to investigation, is established or disproved.

Legal evidence may be divided into two broad areas: first, substantive facts that have been accepted by a court of law for the jury's consideration (that is, the actual legal evidence);

and, second, procedural rules, usually termed the law of evidence, that constitute a set of exclusionary legal requirements or hurdles[5].

The nature of proof facilitated by the court may be interpreted in the following two ways: No inference procedure is laid down by the law for the court to follow. The term evidence is defined as "any matter of fact, the effect, tendency, or design of which is to produce a persuasion in the mind of existence or non-existence of some other matter of fact." Thus, the court is expected to conclude or infer based on its general perceptions. The advantage of this analysis is that all sorts of evidence can be considered by the court. On the other hand, the disadvantage is that the way evidence is presented has an impact on the inferences drawn from the piece evidence. Secondly, since the court has limited time and resources while dealing with any conflict, the court ends up accepting the best possible and available evidence, which may not always result in truth. Thus, each of the parties in dispute develops its strategy in such a way that the discovery and interpretation of evidence is only aimed at proving its own position, or disproves the other party's position, or both.

Thus, the law of evidence in the major legal systems such as common law or civil law countries is the body of legal rules developed or enacted to govern (a) the facts needed to be proved and produced before the court, (b) determining the burden of proof on the parties and

(c) the required standards of proof to win the case[6].

- **STANDARDS OF PROOF**

A criminal trial is not a fairy tale wherein one is free to give flight to one's imagination and fantasy. Crime is an event in real life and is the product of interplay between different human emotions. In arriving at a conclusion about the guilt of the accused charged with the commission of a crime, the court has to judge the evidence by the yardstick of probabilities, its intrinsic worth and the animus of witnesses. It has been a universally

[5]Morris D.Forkosch,*TheNatureof Legal Evidence*,CALIF.L.REV.1356(1971)
[6]KahseDebesuetal.,*Meaning,NatureandPurposeofEvidenceLaw*,ABYSSINIALAW,*availableat* https://www.abyssinialaw.com/about-us/item/932-meaning-and-nature-of-evidence-law

accepted principle in any criminal justice system that the occurrence of a crime is established by producing relevant evidence for identifying the perpetrator/s of such crime. To prove something is to minimise uncertainty involving the facts, circumstances and logical conclusion, or to eliminate some degree of uncertainty, regarding the truthfulness of the conclusion. Proof is not a uni-dimensional phenomenon; there are various levels, or standards of proof. The degree of certainty that must be achieved by the Court in order to accept the truth of a fact is termed the standard of proof. The two major standards are the criminal standard and civil standard. As far as the criminal matters are concerned, the standard of proof is 'beyond reasonable doubt'. Proof beyond a reasonable doubt is needed in a criminal trial to concludethat the accused is guilty of the crime[7]. With this level of proof, a judge may have doubt about the guilt of the accused, but that is considered to be insignificant. Proving a fact beyond reasonable doubt may lead the prosecution to make a strong pleading for conviction. On the other hand, 'preponderance of probability' is the degree of certainty needed to prove a fact ina civil case. The fact is considered to be true if the evidence for the fact outweighs evidence against the fact.

- **BURDEN OF PROOF**

Burden of proof signifies the obligation to prove a fact. It means the duty of establishing the entire case and it rests all the time on the person who alleges the affirmative i.e. plaintiff in a civil case and prosecution in a criminal case. In criminal cases, there is a presumption in favour of innocence of the accused and the burden rests on the prosecution to establish the guilt beyond reasonable doubt. In other words, which party carries the burden of proof depends on the type of dispute and on the legislation applied in the case. It is only when the accused relies upon some independent matters of defence or general exceptions that he has to offer evidence in support of such defence or exception.

- **CHARACTERISTICS OF EVIDENCE**

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In an adversarial system, the ultimate aim of adducing evidence is to facilitate the judge arrive at a rational conclusion regarding a fact in dispute. Therefore, it becomes very important to determine the evidence to be produced before the judge for him/her to arrive at a conclusion. There are certain characteristics which are attributed to any evidence to be eligible for production before the court, such as relevance and admissibility, evidential integrity etc.

Relevance and Admissibility

The term 'relevance' refers to the relationship between evidence and the fact being proved. A piece of evidence is relevant when it makes the fact in question more or less probable. If the evidence does not change probability of the fact, the evidence is irrelevant. The weight of evidence is the measure of how much the evidence changes the probability of the fact. The relevance and weight of a piece of evidence are determined by the court on the basis of general knowledge.

It has been said that relevance depends on logical considerations and that admissibility depends on the law. In contrast to civil law, the common law has developed a large number of rules governing the admissibility of evidence. Relevant evidence is not admissible, for example, if the witnesses are excluded from testifying because of incompetency, or if they are protected by privileges against self-incrimination, or in instances in which they would have to divulge confidential or professional communications that have a privileged status or government secrets, or, again, when the evidence is excluded by the rules against hearsay[8].

Evidential Integrity

The weight of a piece of evidence depends on how probable the evidence is if the fact is true and on how less probable it is if the fact is false. A piece of evidence that is equally likely to originate from tampering as from existence of the fact being proved, has no weight in provingthe fact. To preserve the weight of evidence, the possibility of tampering with it must be minimised. This is called preserving evidential integrity. Evidential integrity is preserved

[8]*Evidence*,ENCYCLOPEDIABRITANNICA,https://www.britannica.com/topic/evidence-law (lastvisited

by handling and examining evidence in ways that do not change it. All handling and examinationmust be performed or witnessed by individuals to whom the finder of fact trusts to be objective and competent to do so. Proving evidence integrity is usually a part of admissibility test. To prove that no tampering occurred, the history of each piece of evidence is recorded from the moment it is seized to the moment it is presented in court. This record is called the chain of custody.

- **CLASSIFICATION OF EVIDENCE**

The main function of rule of evidence is to narrow down the scope of dispute before the court to the facts relating to that matter which have logical probative value in determining a factand to prevent giving judgments based on illogical conclusions or prejudices and as an aid to the administration of justice. Evidence may be classified in several categories:

- Direct and indirect evidence or circumstantial evidence
- Primary and secondary evidence
- Oral and documentary evidence
- Real evidence
- Expert Evidence

- **Direct and Indirect Evidence or Circumstantial Evidence**

Direct evidence means that the existence of a given thing or fact is proved either by its actual production or by testimony of someone who has himself perceived it. It proves the existence of facts in issue without any inference or presumption. Direct evidence is evidence which if believed establishes a fact in issue. It requires no mental process on the part of the Tribunal of fact or to draw conclusion sought by proponent of evidence other thank acceptance of evidence etc. Direct evidence consists of either testimony of witnesses who perceived the facts or the production of documents which constitutes fact which is in question. On the other hand indirect evidence is that which gives rise to a logical inference that such fact exists. The circumstances of circumstantial evidence are the evidentiary facts from which the principal

fact, with all its details or components, or some one or more of these details (which are themselves minor principal facts), are inferred or deduced[9].

The Indian courts have also appreciated circumstantial evidence on many occasions. It is a well settled law that where there is no direct evidence against the accused and the prosecutionrests its case on circumstantial evidence; the inference of guilt can be justified only when all the incriminating facts and circumstances are found to be incompatible with the innocence of the accused. In other words, there must be a chain of evidence so complete as not to leave anyreasonable ground for a conclusion consistent with the innocence of the accused and it mustbe such as to show that within all human probability, the act must have been done by the accused. All the links in the chain of circumstances must be complete and should be proved through cogent evidence.

- **Primary and Secondary Evidence**

Primary evidence, more commonly known as the best evidence or original evidence, is the best available substantiation of the existence of an object because of its originality. It differs from secondary evidence, which is a copy of, or substitute for, the original document. If primary evidence is available to a party, the preference is always given to such evidence. When, however, primary evidence is unavailable—for example, due to loss or destruction of the original evidence—through no fault of the party, he or she may present a reliable substitute for it, once its unavailability is sufficiently established[10].

V. Oral and Documentary Evidence

The words which fall from the lips of living witnesses in open Court are oral evidence, whereas, words written, printed, or carved on any permanent substance, at or before the trial are documentary evidence. When any judgment of any court or any other judicial or official proceeding, or any contract or grant, or any other disposition of property, has been reduced to the form of a document or series of documents, no evidence may be given of such

[9]JOHNREYNOLDSGULSON,PHILOSOPHYOFPROOFINITSRELATIONTOTHEENGLISHLAWOFJUDICIALEVIDENCE171-172(2012)

[10]*PrimaryEvidence*,https://legal-dictionary.thefreedictionary.com/Primary+Evidence(lastvisited March 2023)

judgment or proceeding, or of the terms of such contract, grant, or other disposition of property, except the document itself, or secondary evidence of its contents in cases in which secondaryevidence is admissible under the provisions hereinbefore contained. Section 60 of the Indian Evidence Act, 1872 explains oral evidence. Oral evidences are those evidences which are personally seen or heard by the witness giving them and not heard or told by someone else. All the statements which are permitted by the court or the court expects the witness to make such statements in his presence regarding the truth of the facts, are called as Oral Evidences. On the other hand, documentary evidence is defined under section 3 of the Act. All those documents which are presented in the court for inspection regarding a case, such documents are known as documentary evidences.

VI. Real Evidence

Real evidences are those evidences which are real or material evidences. Real evidence or proof of a fact is brought to the knowledge of the court by an inspection of a physical object rather than by deriving information by a witness or a document. Thus, this type of evidence is introduced in the form of a physical object, either whole or in part. In criminal proceedings, such evidence may consist of blood stains found at the scene of crime, fingerprints, a weapon, DNA samples, marks of footprints or car tyres at the scene of the crime etc. Such evidence provides leading clues with regard to any criminal investigation. Many a time, real evidence corroborated with eye witness's testimony make the evidence more substantive and credible.

CONCLUSION

The last few decades have witnessed a radical change in the nature of crimes committed by the perpetrators belonging to different strata of the society. There is no doubt about the fact that the courts are still flooded with traditional crimes such as murder, rape, theft, criminal intimidation, defamation etc.; however, the changing trend is that the growth of technology has had an impact on the manner of committing such crimes. Consequently, the investigating agencies are dealing with a new class of evidence i.e. electronic or digital evidence, while addressing such traditional crimes. Mere application of intelligence in investigating the

technicalities of such crimes has not been able to resolve the problems arising out of such evidence. On the other hand, crimes are being committed on the cyberspace targeting computers and other digital devices. In fact, a bare analysis of the traditional rules of evidence has not been very effective in investigation of such crimes in today's scenario.

As compared to physical evidence, electronic or digital evidence is different in nature because it has some unique characteristics. First of all, electronic evidence is much easier to change. Second, perfect digital copies can be made without causing any harm to the original. At the same time, the integrity of such evidence may be proven. Understanding the unique nature of electronic evidence is important for appreciating the phases involved in a computer forensics investigation and maintaining the integrity of the same. The fact is that the investigation of such crimes is complex. The evidence is often in an intangible form. Its collection, appreciation, analysis and preservation present unique challenges to the Investigator. The increased use of networks and the growth of the Internet have added to this complexity. Using the Internet, it is possible for a person sitting in India to steal a computer resource in the USA using a computer situated in China.

REFERENCES

- ALAN M. GAHTAN, ELECTRONIC EVIDENCE (1999)
- ANDREW SANDERS *ET AL*., CRIMINAL JUSTICE (2010)
- ARTHUR PERCIVAL WILL, A TREATISE ON THE LAW OF CIRCUMSTANTIAL EVIDENCE, (2012)
- BILL NELSON, AMELIA PHILLIPS & CHRISTOPHER STEUART, GUIDE TO COMPUTER FORENSICS AND INVESTIGATION (2010)
- Bindu Jindal ed. Gurmanpreet Kaur, CYBER STALKING AND VICTIMIZATION OF WOMEN: AN ANALYTICAL STUDY, IN LAW AS A CATALYST OF SOCIAL CHANGE IN PRESENT SCENARIO (2016).
- BIVAS CHATTERJEE, ELECTRONIC EVIDENCE (2015)
- CHRIS L.T. BROWN, COMPUTER EVIDENCE COLLECTION AND PRESERVATION (2006)

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